GMAT*

Practice Test Explanations

KAPLAN

TEST PREP AND ADMISSIONS

01 GMAT 2006 PT Expls 12/7/06 2:22 PM Page 1

Answers and Explanations

ANSWER KEY

Quantitative Section

1.	C	20.	D
2.	E	21.	B
3.	B	22.	D
4.	B	23.	E
5.	D	24.	B
6.	A	25.	E
7.	C	26.	C
8.	A	27.	E
9.	C	28.	D
10.	D	29.	E
11.	D	30.	B
12.	B	31.	B
13.	E	32.	A
14.	C	33.	B
15.	A	34.	B
16.	A	35.	E
17.	D	36.	A
18.	A	37.	D
19.	D		

Verbal Section

1.	C	22.	D
2.	E	23.	A
3.	C	24.	D
4.	B	25.	B
5.	D	26.	A
6.	B	27.	E
7.	C	28.	E
8.	D	29.	C
9.	D	30.	A
10.	A	31.	C
11.	C	32.	B
12.	C	33.	C
13.	A	34.	A
14.	A	35.	D
15.	D	36.	B
16.	C	37.	B
17.	E	38.	B
18.	D	39.	A
19.	E	40.	E
20.	C	41.	A
21.	E		

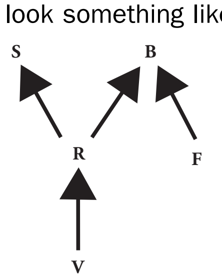
QUANTITATIVE SECTION EXPLANATIONS

1. (C)

Here we have a percent problem with no numbers. One thing you know: *You can't simply subtract the percents to get* "25% minus 20% equals a 5% increase," *because the percents are of* ***different*** *wholes.* The percent decrease is a percentage of the new, increased amount, not a percentage of the original amount. The best way to solve problems like this is to use a concrete number. *Since we're dealing with percents, the number to start with is 100.* (Don't worry about whether 100 is a "realistic" number in the context of the problem; we just need a convenient number to tell us how big the final amount is relative to the starting amount.) Say the price of copper starts at \$100. 25% of \$100 is \$25, so if the price of copper increases by 25%, it rises by \$25 to \$125. Now the price decreases by 20%. 20% is just $\frac{1}{5}$, so the price drops by $\frac{\$125}{5}$, or \$25. So the price drops to \$100. That's the original price, so the answer is **(C)**.

2. (E)

This problem is just a matter of keeping the information straight. The easiest way to do this is to make a scratchwork chart, putting one person's initial above another when the first person is known to be taller. *The trick is to make sure you don't unwittingly imply a relationship in heights when none is stated; so draw your chart very carefully.* Sidney is known to be taller than Roger, so Sidney's initial goes above Roger's. Roger is taller than Vernon, so Vernon goes below Roger (and Sidney). Billy is taller than Roger, so he goes above Roger. But who is taller: Sidney or Billy? We have no way of knowing, so we'll put Billy next to Sidney. Billy is also taller than Felix, so we put Felix underneath Billy. However, we have no idea of Felix's height in relation to anyone else's, so we should put Felix off to the side. Your chart might look something like this:



Now try the answer choices. As we just said, we only know Felix's height in relation to Billy, so **(A)**, **(C)**, and **(D)** are out. **(B)** isn't necessarily true either: Both Sidney and Billy are taller than Roger, but we don't know which is taller than the other. **(E)** is left by process of elimination. Just to check, Billy is taller than Roger and Roger is taller than Vernon, so Billy does indeed have to be taller than Vernon.

3. (B)

We see an equation with two variables, x and y. If we can determine the value of y, we could solve for x. Note that we don't have to do the work.

(1) INSUFFICIENT: From statement (1), we know that $y = 2$ or $y = -2$; consequently, x has two values as well. This statement is insufficient, so eliminate choices **(A)** and **(D)**.

(2) SUFFICIENT: The value of y is given, so the value of x can be determined. The statement is sufficient.

4. (B)

For the spring water, the bottler must test $0.05(120) = 6$ cases, and for the sparking water, he must test $0.1(80) = 8$ cases. The total number of cases to be tested for the spring and sparkling water combined is $6 + 8 = 14$, which is $\frac{14}{200} = \frac{7}{100} = 7\%$ of all cases.

5. (D)

When you're faced with an inequality, make sure you understand what it means—don't deal with it by just manipulating symbols. Here, $xy > 0$ means xy is positive. This means that either x and y are both positive or they're both negative. They can't have different signs. Seeing the question in terms of positives and negatives can make it easy to answer. If x and y are both positive, **(A)** and **(E)** are true. If x and y are both negative, **(B)** and **(C)** are true. That leaves only **(D)**, which must always be false. A fraction can only be negative if the numerator and denominator (x and y here) have *different* signs.

6. (A)

The first thing we know when we see a problem like this is that it doesn't require advanced exponential computation. The GMAT isn't about testing difficult computation; it tests whether we understand the basic rules of manipulating exponents. Indeed, the point is to eliminate the need to work with exponential expressions. We can do that by converting the powers on either side of the equation into exponents with the same base. The equation can be rewritten: $3^{(3a + 4)} = (3^2)^a$. When we raise a power to an exponent, we multiply the exponents: $(3^2)^a = 3^{(2a)}$. So the equation is $3^{(3a + 4)} = 3^{(2a)}$. Since both sides of the equation have the same base, 3, we can set the two exponents equal: $3a + 4 = 2a$. The rest is simple algebra. Solving $3a + 4 = 2a$, $a + 4 = 0$, and $a = -4$.

7. (C)

In order to determine the standard deviation for a set of numbers, you need to know how the numbers are spread out within the set. Since the table (stem) gives us the averages and the number of students, we need information about how spread out the students are in class *A* and class *B* in order to solve.

(1) INSUFFICIENT: This statement gives you information about how spread out class *A* is, but offers you no information about class *B*.

(2) INSUFFICIENT: This statement gives you information about how spread out class *B* is, but offers you no information about class *A*.

In combination, the statements are sufficient. Statement (1) gives information about the standard deviation of class *A* and statement (2) gives information about the standard deviation for class *B*. Although you cannot determine the exact standard deviation of either class, you can see that class *B* has a much narrower distribution of members than class *A* and from this you can determine that class *A* would have a greater standard deviation than class *B*. Choice **(C)** is the correct answer.

8. (A)

If we can determine the smallest integer on the list or a specific integer on the list when the list is written in increasing order, we can determine the greatest integer on the list.

(1) SUFFICIENT: We're given one variable and one equation for the smallest integer on the list. That means we could solve for the smallest integer and add 10 to find the greatest integer. If you don't see this, consider $(x + 72)^{\frac{1}{3}} = 4$. Cubing both sides, $x + 72 = 4^3$. Then $x + 72 = 64$, and $x = -8$. Adding 10 to –8, the greatest integer is 2. Eliminate choices **(B)**, **(C)**, and **(E)**.

(2) INSUFFICIENT: If $\frac{1}{64} = x^{-2}$, then $\frac{1}{64} = \frac{1}{x^2}$ and $x^2 = 64$. So $x = 8$ or $x = -8$.

There are two different possibilities for the smallest integer on the list, so there must be two different possibilities for the greatest integer on the list. Statement (2) is insufficient.

9. (C)

We're told that the average of $3a + 4$ and another number, which we'll call x, is $2a$. That means $\frac{(3a + 4) + x}{2} = 2a$. We can solve for x in terms of a: $(3a + 4) + x = 4a$; $x = 4a - (3a + 4)$; $x = a - 4$. We're asked to find the average of x and a. That's just the average of $(a - 4)$ and a, which is $\frac{(a - 4) + a}{2}$, or $\frac{2a - 4}{2}$, or $a - 2$. The algebra here is simple; the difficult part is remembering what numbers you're taking the average of, and what number we're looking for. First, we're looking for x, but the answer is not x in terms of a; the answer is the average of x (expressed in terms of a) and a. You must also remember that you get the average of two numbers by adding them and dividing by two.

You could also have solved this by picking a number for a, such as 2. Then, $3a + 4$ is 10, and the average of 10 and the unknown number x is $2a$, or 4. So $\frac{10 + x}{2} = 4$, $10 + x = 8$, and $x = -2$. The average of x and a, therefore, is just the average of –2 and 2, which is $\frac{2 + (-2)}{2}$, or 0. So look at the answer choices for the ones that equal 0 when $a = 2$. The only one that fits is **(C)**, $a - 2$.

10. (D)

We're told to figure out when Jan will catch up with Tom. Jan reads at the rate of 40 pages per hour and Tom reads at the rate of 30 pages per hour. Tom starts reading 50 minutes ahead of Jan. Since 50 minutes is $\frac{5}{6}$ of an hour, by the time Jan starts reading at 5:20, Tom has already read $\frac{5}{6} \times 30 = 25$ pages. You might have saved yourself some work by noticing that Jan gains 10 pages an hour on Tom, since she reads 10 pages an hour faster. Since he's got a head start of 25 pages at 5:20, it should take her $\frac{25 \text{ pages}}{(10 \text{ pages/hour})} = 2.5$ hours for her to catch him.

You can also work out the problem algebraically. The number of pages Jan has read at any given time after 5:20 is $40x$, where x is the time in hours from 5:20. At 6:20 she's read 40 pages, at 7:20 she's read 80 pages, etc. The number of pages that Tom has read at any time after 5:20 is $25 + 30x$. We want to know when the quantities $40x$ and $25 + 30x$ will be equal, that is, when $40x = 25 + 30x$. Solving for x, we get $10x = 25$, and then $x = \frac{25}{10} = 2\frac{1}{2}$. So it takes $2\frac{1}{2}$ hours for Jan to catch Tom. Since Jan started at 5:20, this means she will catch Tom at precisely 7:50.

11. (D)

Remember that Work = Rate × Time.

(1) SUFFICIENT: This statement tells us that Mike's construction company builds houses at the rate of $2 \times 40 = 80$ houses per year. The two companies together build houses at the rate of $40 + 80 = 120$ houses per year. So we can determine how long it will take the companies working together to build 64 houses. Eliminate answer choices **(B)**, **(C)**, and **(E)**.

(2) SUFFICIENT: This statement gives us the rate at which Mike's company builds houses. So we can find the rate at which the companies build houses together and we can find how long it will take both companies working together to build 64 houses.

12. (B)

The multiples of 3 from 15 through 105 inclusive are 15, 18, 21, ...102, and 105. Let's write these multiples in a way that makes the solution to this problem clear.

$15 = 3 \times 5$, $18 = 3 \times 6$, $21 = 3 \times 7$, $24 = 3 \times 8$,...$102 = 3 \times 34$, and $105 = 3 \times 35$.

So the multiples of 3 from 15 through 105 inclusive can be obtained by multiplying 3 by each of the integers 5 through 35 inclusive. Therefore the answer to this question is the number of integers from 5 through 35 inclusive. Now $35 - 5 = 30$, but don't make the mistake of forgetting to include 5 as an integer as well. There are 31 integers among the integers 5 through 35 inclusive. Thus, the number of multiples of 3 among the integers 15 through 105 inclusive is 31.

13. (E)

All we know is that x is a prime number. We want enough information to determine which prime number x is. Our method, then, is to try to find more than one prime that fits with whatever information we're given. If we can, the information is insufficient; if we can't—if we can find only one prime that fits with the information—then the information is sufficient.

(1) INSUFFICIENT: If $x < 15$, x could be 2, 3, 5, 7, 11, or 13. Eliminate **(A)** and **(D)**.

(2) INSUFFICIENT: If $(x - 2)$ is a multiple of 5, then x is 2 more than a multiple of 5. So the question is: Can we find more than one prime number that is 2 more than a multiple of 5? Yes. Multiples of 5 are 0, 5, 10, 15, 20, and so on. Two more than 5 is 7—a prime number. While 2 more than 10 is 12, which isn't a prime number, 2 more than 15 is 17, which is prime. Eliminate **(B)**.

In combination: Statement (1) narrowed down the possible values of x to 2, 3, 5, 7, 11, and 13. Remember that 0 is a multiple of 5 as well. Since both 2 and 7 are two more than a multiple of 5, we cannot find a single answer to the question using both statements. Choose **(E)**.

14. (C)

Both people are traveling at *about* a floor per second. There are forty floors between them. So it would take one person about 40 seconds to traverse this distance, and it would take two people about 20 seconds to cross paths when they are traveling toward each other. So each will travel for about 20 seconds. Now, let's plug that in and see just how far off we are. Twenty seconds is one-third of a minute; Steve travels 57 floors a minute; so in 20 seconds Steve travels $57 \times \frac{1}{3} = \frac{57}{3} = 19$ floors. Joyce would, in the same 20 seconds, travel $63 \times \frac{1}{3} = \frac{63}{3} = 21$. That makes exactly 40 stories that the two would travel, which is exactly what we need. Steve moves up 19 stories and Joyce descends 21 stories So Steve will be on floor number $11 + 19 = 30$.

You could also have solved this question by adding the two rates. Steve travels at 57 floors per minute and Joyce at 63 floors per minute. So they are decreasing the number of floors between them at a rate of 57 + 63, or 120 floors per minute. This is 2 floors per second. Since they start out 40 floors apart, it'll take them $\frac{40}{2}$, or 20 seconds to meet. After 20 seconds, which is $\frac{1}{3}$ of a minute, Steve will have moved $57 \times \frac{1}{3}$, or 19 floors and he will be on the 30th floor, the same floor Joyce will be on after 20 seconds.

If you were pressed for time, a third option would be to estimate and guess. Joyce is traveling faster, so she'll go farther. That means they can't have met at the halfway point (floor 31) or any of the floors closer to her. Eliminate **(D)** and **(E)**. Since they are traveling at nearly the same rate, they would have to meet near the halfway point, floor 31. Eliminate **(A)**. At this point, you can guess between **(B)** and **(C)**.

15. (A)

In 8 hours George will have copied 50 pages, and Sonya will have copied *more than* 50 pages (since she needs only 6 hours to do 50 pages). That means that in 8 hours the two of them together can copy more than 100 pages. But all the answer choices except **(A)** are longer than 8 hours, so **(A)** must be correct.

This problem could also be solved using math.

George takes 8 hours to do a 50-page manuscript, so each hour, he copies $\frac{50}{8} = 6\frac{1}{4}$ pages. Each hour, Sonya copies $\frac{50}{6} = 8\frac{1}{3}$ pages. Working together, in one hour they would copy $6\frac{1}{4} + 8\frac{1}{3}$, or $14\frac{7}{12}$ pages. Divide that number into 100 (the number of pages we want copied) and we'll have the number of hours needed. The number of hours is $6\frac{6}{7}$.

16. (A)

Because we know that 3 is a solution, we can plug it into the equation. Thus, $3^2 + 2(3) + m = 5$, $9 + 6 + m = 5$, $15 + m = 5$, and $m = -10$. We can now rewrite the equation as $x^2 + 2x - 10 = 5$ or $x^2 + 2x - 15 = 0$. Factoring the left side of this equation, we see that $(x + 5)(x - 3) = 0$, which has the solutions –5 and 3. Therefore, $x = -5$ is the other solution.

17. (D)

The correct approach here is not to multiply out the numbers, but to rewrite the number $n \times 2^5 \times 6^2 \times 7^3$ so that it is n multiplied by an integer that is written as a prime factorization, and then compare its factors to 5^2 and 3^3. Any 5's or 3's that can't be factored out of $2^5 \times 6^2 \times 7^3$ will have to be factors of n. So, completing the prime factorization, we get: $n \times 2^5 \times 2^2 \times 3^2 \times 7^3$. We can combine the 2's: $n \times 2^7 \times 3^2 \times 7^3$. The only common factors so far are two 3's. That means that the two 5's and the remaining 3 must all be factors of n, in order for the two 5's and three 3's to be factors of the entire product. The smallest postitive integer that has two 5's and one 3 as factors is $5 \times 5 \times 3$, or 75.

18. (A)

The formula for the area of a rectangle is: area = length × width. So here we have: area = $a \times b$. Since we are only asked for the rectangle's area, rather than its length and width, we can answer the question without actually determining a or b. All we really need is the **product** of a and b. (After all, a rectangle with area 6 could have sides of 3 and 2 or sides of 6 and 1. Either way, it has an area of 6.)

(1) SUFFICIENT: While we cannot solve the equation for either variable, we can find the product of the two variables. We multiply both sides by b. This gives us $2ab = 15$. Now we can divide both sides by 2 and get a value for ab. Eliminate **(B)**, **(C)**, and **(E)**.

(2) INSUFFICIENT: We cannot solve this single equation for either variable, nor can we find the value of ab from it. Choose **(A)**.

19. (D)

LMN is a 45°-45°-90° triangle, so the lengths of its sides are related by the ratio $x : x : x\sqrt{2}$. Likewise, *JKN* is a 30°-60°-90° triangle, so the lengths of its sides are related by the ratio $x : x\sqrt{3} : 2x$. For both of these triangles, learning the length of any side enables us to calculate the lengths of the other two sides. In addition, both triangles are formed by leaning the same board against a wall, so $LM = JK$. So learning the length of any side of either triangle enables us to find all the other side lengths for both triangles—the other two side lengths of that triangle and also all three side lengths of the other triangle. Each statement alone is sufficient since each statement gives a side length of one of the triangles.

20. (D)

A common mistake is to pick **(A)**. It's a logic task that many people prefer to visualize, using dashes for desks. We'll just refer to the desks as 1, 2, 3, and 4, in that order, and we'll call the students *X* and *Y*. In order to keep at least one empty desk between the two, we have to keep either one or two empty desks between them. If we keep only one desk between the two, there are four ways the chairs can be occupied: *X* can be in 1 with *Y* in 3, *Y* can be in 1 with *X* in 3, *X* can be in 2 with *Y* in 4, and *Y* can be in 2 with *X* in 4. If, on the other hand, we keep two empty chairs between the students, then there are two ways to occupy the desks: *X* can be in 1 with *Y* in 4, and *Y* can be in 1 with *X* in 4. There are 4 + 2 = 6 different ways the students can be seated.

21. (B)

We need the ratio of men to women. The only thing to keep in mind is the difference between ratios and actual numbers.

(1) INSUFFICIENT: The phrase *3 fewer than* ruins it. Otherwise we'd have a 1:2 ratio of women to men, giving us a 2:1 ratio of men to women. But with the *3 fewer than* thrown in, we cannot derive a ratio. A ratio is a comparison by division; *fewer than* is a comparison by addition or subtraction. We can't get the former from the latter. To demonstrate by picking numbers, if there are 8 men in the class, then there is $\frac{1}{2}(8) - 3 = 4 - 3 =$ 1 woman—an 8:1 ratio. But if there are 10 men in the class, then there are $\frac{1}{2}(10) - 3 = 5 - 3 = 2$ women—a 5:1 ratio. Eliminate **(A)** and **(D)**.

(2) SUFFICIENT: $\frac{2}{5}$ is a comparison by division; it *is* a ratio. There are 2 women for every 5 men—a 5:2 ratio of men to women. Choose **(B)**.

22. (D)

The warehouse has two kinds of coats in it: full-length and shorter coats. Initially 15 percent of the coats are full-length, but then a number of the short coats are removed. We're asked to calculate what percent of the *remaining* coats are full-length. The key to this question is first to calculate the *number* of full-length coats. At first, there are 800 coats in the warehouse; if 15 percent of these are full-length, then $\frac{15}{100} \times 800 = 15 \times 8 = 120$ coats are full-length. Then 500 short coats are removed. So that makes 300 coats in total remaining. There are still 120 full-length coats in the warehouse. What percentage of 300 does 120 represent? $\frac{120}{300} = \frac{40}{100} = 40\%$.

23. (E)

We are dealing with three integers, *q*, *r*, and *s*. If we determine either that they cannot be consecutive or must be consecutive, then we have sufficiency. Anything else is insufficient.

(1) INSUFFICIENT: This tells you that *q*, *r*, and *s* are evenly spaced and that *r* is the middle term, but the terms could be 1, 2, 3; or 0, 5, 10; or a myriad of other options.

(2) INSUFFICIENT: Again, from this statement, all we can determine is that we are dealing with evenly spaced integers, but we do not know whether they are consecutive or spaced further apart.

In combination: Since each statement gave the same information about integers *q*, *r*, and *s*, the statements in combination are insufficient as well. Choice **(E)** is correct.

24. (B)

This is a typical word problem, which needs to be set up as an equation. We'll use *r* for orchestra (we don't want the letter *o*, as it might get confused with the number 0), *m* for first mezzanine, and *s* for second mezzanine tickets. The total number of tickets sold is 2,350. Therefore: $r + m + s = 2{,}350$. We need to solve for *r*. Any information that allows us to solve for *r* will be sufficient, whether or not it allows us to solve for the other variables.

(1) INSUFFICIENT: This equation only relates *m* to *s*. We get $m = \frac{1}{2}s$. That tells us nothing about how many orchestra tickets were sold. We can eliminate choices **(A)** and **(D)**.

(2) SUFFICIENT: By giving us an equation relating *r* to the sum of the other tickets (the sum of *m* and *s*), this statement allows us to replace $m + s$ in the original equation with $1.5r$, leaving only one variable to solve for. We're told that $m + s = 1.5r$. Thus, we can substitute $1.5r$ for $m + s$ in the equation $r + m + s = 2{,}350$ and solve: $r + 1.5r = 2{,}350$. Choose **(B)**.

25. (E)

To solve this, you need to know the formula for the area of a triangle, and you need to understand the basics of coordinate geometry. First, you should notice that point C is on the x-axis. That means C has a y-coordinate of 0, which allows you to eliminate **(A)** and **(D)**. Even if you couldn't figure out how to do any more, this would considerably improve your odds of guessing.

In general, any time you are told the area of a triangle, you should suspect that the formula for the area ($\frac{1}{2}$*base* $\times$ *height = area*) *will come into play.* We can use this formula to find the x-coordinate of point C. Notice that the segment AC is a base of the triangle. Since this segment lies entirely along the x-axis, and since A is at the origin (with an x-coordinate of 0), the length of the segment is exactly the x-coordinate of C. So if we find the length of the base AC, we'll have C's x-coordinate. The y-coordinate of the apex B is k, so the distance from B to the x-axis is k. Since the base lies along the x-axis, that means the height of the triangle is k. Let's call the base of the triangle s. So s is the x-coordinate of point C. Now we can fill in our area formula, which is $\frac{1}{2}$*base* $\times$ *height* = *area*. We get $\frac{1}{2}sk = 8$, $sk = 16$, and $s = \frac{16}{k}$.

The coordinates of point C are $(\frac{16}{k}, 0)$.

26. (C)

Use the probability formula:

Probability = $\frac{\text{Desired}}{\text{Possible}}$

First, determine the number of possible outcomes of rain for City X over a 5-day period. There are two possibilities for each day—rain or no rain—so the total number of possible outcomes would be $2 \times 2 \times 2 \times 2 \times 2 = 32$.

Next, determine the number of desired outcomes. The number of desired outcomes is the number of ways of having rain on exactly 3 of the 5 days. This is the number of ways of choosing 3 objects from 5 different objects. We can use the combinations formula. Let ${}_nC_k$ be the number of ways of choosing k objects from n different objects, then ${}_nC_k = \frac{n!}{k!(n-k)!}$. Here, $n = 5$ and $k = 3$. So the number of desired outcomes is ${}_5C_3$ and

${}_5C_3 = \frac{5!}{3!(5-3)!} = \frac{5!}{3!(2)!} = \frac{5 \times 4 \times 3 \times 2 \times 1}{3 \times 2 \times 1 \times 2 \times 1} = \frac{5 \times 4}{2 \times 1}$

$= 5 \times 2 = 10$.

The probability that it rains on exactly 3 days in a 5-day period is $\frac{10}{32} = \frac{5}{16}$. Choice **(C)** is correct.

We can also find the number of ways of getting rain on exactly 3 of the 5 days by systematically listing these ways:

RRRNN; RRNRN; RRNNR; RNRRN; RNRNR; RNNRR; NRRRN; NRRNR; NRNRR; NNRRR.

There are 10 desired outcomes in all. So the probability is $\frac{10}{32} = \frac{5}{16}$, and again, choice **(C)** is the correct answer.

27. (E)

The question asks for the gross profit: that's the total sales of the soda minus the cost of the syrup used in making the soda. The cost of the syrup is the cost per liter times the number of liters of syrup. So the cost of the syrup is (k dollars per liter) times (m liters), which is km dollars. The total sales of the soda is the sale price per liter times the number of liters of soda sold. The sale price per liter is j dollars per liter. The number of liters of soda sold is just the number of liters of syrup, m, plus the number of liters of water, which is mw, since the recipe requires w liters of water for every liter of soda. So the number of liters of soda sold is $m + mw$. Therefore, the total sales of the soda is (j dollars per liter) times $[(m + mw)$ liters$]$, which is $j(m + mw)$ dollars. That makes the gross profit $j(m + mw) - km$ dollars. None of the answer choices is written precisely as $j(m + mw) - km$. We must find an answer choice equivalent to this. Finding it depends on our ability to use the distributive law in algebraic expressions. Recognizing **(E)** as the answer is just a matter of seeing that $j(m + mw) = jm(1 + w)$. So the gross profit, in dollars, is $jm(1 + w) - km$. Choice **(E)** is correct.

Alternatively, we can do this question by picking numbers. Remember, we still have to figure out how to do the substitution in order to get the right number for the gross profit. Pick small numbers for the variables. Say $w = 2$, $m = 4$, $j = 3$ and $k = 5$. Then we have $m = 4$ liters of syrup; that costs $km = (5)(4) = 20$ dollars. We have $mw = (4)(2) = 8$ liters of water; that makes $4 + 8 = 12$ liters of soda. The total sales of the soda is $(j)(12) = 12j = 36$ dollars. So the profit is $36 - 20 = 16$ dollars. The correct answer choice should result in 16 if we plug in all the above values for w, m, j, and k. The only choice that works out is **(E)**. *Sometimes when we pick numbers we will find that more than one choice gives the right answer; in those cases we have to try to eliminate the remaining incorrect answer choices with a new set of values.*

28. (D)

We want the average. Using the average formula, which is $\frac{\text{Sum of the terms}}{\text{Number of terms}}$, we can set up the expression for the average number of cars sold per salesperson, $\frac{11a + 16b}{a + b}$ where a is the number of salespeople at location A and b is the number of salespeople at location B. Any information that allows us to evaluate this expression will be sufficient.

(1) SUFFICIENT: Here we get an equation that allows us to express each of a and b in terms of the other. Since a is $3b$, we can substitute $3b$ for a in our original expression and solve for the average. Eliminate **(B)**, **(C)**, and **(E)**.

(2) SUFFICIENT: Here we get the total number of cars sold at each of A and B. This allows us to determine the number of salespeople at each location, which we've symbolized as a and b. With values for a and b, we can find the value of the expression $\frac{11a + 16b}{a + b}$ and thus determine the average. Choice **(D)** is correct.

29. (E)

If an "anglet" is one percent of a degree, then there are 100 anglets in each degree. Since there are 360 degrees in a circle, there are 100×360, or 36,000, anglets in a circle. Never let the introduction of a new term like "anglet" worry you; *questions that introduce new terms are usually easy, involving little more than a simple substitution.*

30. (B)

You know that 600 people were polled, and you know that each person said exactly one of these three things: in favor, against, or undecided. In terms of equations and variables, we have one equation and three unknowns: $F + A + U = 600$.

(1) INSUFFICIENT: Gives you information about those who were in favor and those who were against, but since we are given no information on those undecided, the statement is insufficient.

(2) SUFFICIENT: Gives you the number undecided and an equation from which you can find the number against the bill. Once these two values are determined, you can find the number of those in favor. Choice **(B)** is the correct answer.

31. (B)

We're looking for the cost of the bricks that were actually used to make the fireplace. In order to find that, we need to know how many bricks were used, and what each brick costs. Since $\frac{3}{4}$ of the bricks were used, $\frac{1}{4}$ of the bricks weren't used. That unused quarter of the total amounted to 190 bricks. That means that number of bricks that were used, $\frac{3}{4}$ of the total, amounted to 3×190, or 570 bricks. Each brick cost 40 cents, so the total cost of the bricks that were used was $0.40 \times 570 = 228$ dollars.

32. (A)

This problem asks for the expression with the greatest *absolute* value, *so we have to remember to consider negative values; problems like this are often set up to trip up those who only work with positive values.* The only way to solve this is to try each choice. *Since* x *can be any number from –2 to 2 inclusive, and we're looking for the greatest possible absolute value, it makes sense to plug these two extreme values of* x *into each choice.* For each choice in this question, the largest possible absolute value will result either from giving x the value of 2 or from giving x the value of –2.

In **(A)**, $3x - 1$ is 5 when $x = 2$, and –7 when $x = -2$. In **(B)**, $x^2 + 1$ is 5 when $x = 2$ and also when $x = -2$. In **(C)**, $3 - x$ is 1 when $x = 2$, and 5 when $x = -2$. In **(D)**, $x - 3$ is –1 when $x = 2$, and –5 when $x = -2$. In **(E)**, $x^2 - x$ is 2 when $x = 2$, and 6 when $x = -2$. Out of these possible values for the expressions, –7 has the largest absolute value, so **(A)** is the answer.

33. (B)

Don't make the mistake of multiplying out the parentheses—that would be too time consuming and complicated. We're presented with two quantities that have a product of zero. Therefore, at least one of the two quantities must have a value of zero. *So the question is really asking: What's the smallest value of* x *that will make one of these parenthetical expressions equal zero?*

You can save yourself further time by checking the second expression first (as it is easier to work with). Suppose $x^2 - 4 = 0$. Then $x^2 = 4$, and x can be 2 or –2. That immediately narrows down the choices to **(A)** and **(B)**, since –2 is already smaller than **(C)**, **(D)**, and **(E)**. You can then check **(A)** directly by seeing whether $\frac{12}{x} + 36$ is 0 when $x = -3$: $\frac{12}{-3} + 36$ equals $(-4) + 36$, which equals 32, which is definitely not 0. So **(A)** can't be the answer and we're left with **(B)**. Alternatively, you could have checked for any other possible values of x by setting $\frac{12}{x} + 36$ equal to 0, and solving: $\frac{12}{x} + 36 = 0$; $\frac{12}{x} = -36$; $-36x = 12$; $x = \frac{12}{-36}$; $x = -\frac{1}{3}$.

You'd still have discovered that –2 is the smallest value of x, but it's a more time consuming method.

34. (B)

We need b. There's nothing more to it than that.

(1) INSUFFICIENT: This is one equation with two variables. We cannot solve for either variable. Eliminate **(A)** and **(D)**.

(2) SUFFICIENT: *The equation hasn't been simplified, and that should set off alarm bells.* It looks to be insoluble: one equation, two variables. Yet, the variable a occurs twice. When we simplify, by removing the parentheses, we get $a = b - 1 + a$. Subtracting a from each side, we have $0 = b - 1$. This can be solved for b. Choose **(B)**.

35. (E)

Solving this is just a matter of restating each answer choice as a simple number by multiplying a decimal number and a power, where the power has a base of 10 and an integer exponent. *To multiply a decimal number by a power, where the power has a base of 10 and a positive integer exponent, simply move the decimal point to the right the same number of places as the exponent of the power with the base of 10.* So to simplify **(A)**, take 0.00001 and move the decimal point eight places to the right. After five places we have 1.0; three more places gives us 1,000. We want a number greater than 1,000.01, so we move on. Moving the decimal four places to the right in **(B)** only gives us 101. **(C)** becomes 110. **(D)** converts to 1,000.01 exactly. Therefore we know **(E)** is right without figuring it out (as a matter of fact it converts to 1,000.1).

36. (A)

We want information about the values a and b or about the value of their sum. We keep in mind that neither a nor b is necessarily positive or an integer.

(1) SUFFICIENT: The numerator is *the difference of two squares.* This is a common expression on the GMAT and we know instantly that it factors into $(a + b)$ times $(a - b)$. Canceling the $(a - b)$ from both the numerator and denominator, we're left with the value of $a + b$. Eliminate **(B)**, **(C)**, and **(E)**.

(2) INSUFFICIENT: There's a common GMAT trap here. You might have been inclined to remove the exponent from the left side of the equation in order to get a value for $a + b$. We cannot find the value of $a + b$ simply by knowing that $(a + b)^2 = 36$ because both 6 and –6 squared result in 36. Choice **(A)** is correct.

37. (D)

As with the previous question, we want information about the sum of two variables. Unlike the previous question, though, we get useful information. If the two powers are equal, and if the bases are equal, then the exponents have to be equal. (2 taken to some power can only equal 2 to that power.) So we start out knowing that $2m + 1 = n + 2$. One equation, two variables.

(1) SUFFICIENT: Approached abstractly, we have another, different equation. Thus, we now have two equations and two variables. We can solve for the variables and add them. Approached less abstractly, this equation allows us to solve for the value of n (hint: 256 is 2^8). Substituting the value of n into the original equation, we can solve for m. Then it's just a matter of adding. Eliminate **(B)**, **(C)**, and **(E)**.

(2) SUFFICIENT: Similar situation here. It's a second, different equation with the same two variables found in the equation in the question stem, so we can solve for the values of the variables. Thus, we can determine their sum. Choice **(D)** is correct.

VERBAL SECTION EXPLANATIONS

1. (C)

In question 1 we're asked to strengthen the researchers' alarming conclusion that the misinformation they've discovered in journal advertisements could lead doctors into misprescribing drugs. This argument works only if we assume that doctors give credence to the ads. Since *the best way to strengthen an argument is to make an assumption more likely*, we want a choice that says doctors are indeed influenced by the information in the ads. According to **(C)**, doctors use the ads as a serious resource for information about new prescription drugs. So **(C)** is correct.

(A) indicates that the ads are important to publishers as a source of revenue, but does nothing to show that the ads are important to doctors, let alone that they can affect doctors' prescriptions.

(B) and **(D)** support the notion that the ads are or can be misleading: **(B)** tells us that journal editors often can't tell whether an ad is deceptive; **(D)** tells us that ads are usually less accurate than articles evaluating the drugs. But we already know that the ads contain misleading information, so these choices add nothing. **(E)** weakens the argument by suggesting that a government agency is watching out for potentially harmful, misleading claims.

2. (E)

The beginning of the underlined part should be "an index . . . that *is* called objective," not "an index . . . that *are* called objective." If you catch an obvious error like this, quickly scan the other choices for versions that repeat it. That knocks out **(B)**. (Remember you don't need to reread **(A)**; it's the same as the original, and we already know that's wrong.) Now, we are left with **(C)**, **(D)**, and **(E)**. The crucial difference here is between the wordy phrase *progress, such as what is made*—in **(C)** and **(D)**—and **(E)**'s *progress such as that*. **(E)**'s wording is preferable.

3. (C)

Sometimes the GMAT requires you to recognize grammar you would never use in spoken English. That's true for the use of *and so* here. *And so, to do so*, and similar uses of the word so are often featured in GMAT English. Because they're infrequently used even in written English, they sound funny, and the test writers are hoping you'll think they're wrong. Here **(C)** is best because it replaces **(A)**'s awkward *it causes them to lose* with the much shorter *so lose*.

Passage 1—Women in the Labor Market

Topic and Scope: Participation of women in the labor market; specifically, the status of women in matters of pay and promotion.

Purpose: The author wants to identify and discuss two to three specific conditions that restrict job opportunities for women, particularly women with children. The main idea is summed up in the second sentence: The author agrees with what "analysts" say—"women comprise a secondary labor market where rates of pay and promotion prospects are inferior to those available to men."

Paragraph Structure: Paragraph 1 lays out the basic viewpoint, explaining that women are disadvantaged by "social values which require women to give priority to home and family over paid employment." Paragraph 2 adds evidence: in order to meet domestic responsibilities, many women work part time, a "precarious" form of employment. Paragraphs 3 and 4 discuss problems faced by women who leave the job market temporarily to have children. Many end up in low-status jobs, and even professional women fail to get promoted.

The Questions

4. (B)

This is the only choice that encompasses the clearly expressed Topic, Scope, and point of view.

(A) incorrectly broadens the scope to employers' practices in general, whereas the author is concerned only with pay and promotion. Besides, the author restricts himself to discussing the current state of affairs; he doesn't advocate anything.

(C) takes a detail in paragraphs 2 and 3 and wrongly blows it up into the author's primary concern.

(D) and **(E)** are completely off the topic, and, contrary to what **(D)** says, the author doesn't take issue with others' views.

- The correct answers to Global questions have to cover the same topic and scope, and reflect the same tone, as the passage itself.

5. (D)

Lines 34–36 say that "when the typical houseworker returns to the labor market, she is unsure of herself in her new environment.'' In other words, such women experience anxiety.

Line 21 suggests that it is up to working women themselves, not employers **(A)**, to make childcare arrangements.

(B) is a 180° trap. Paragraph 4 says that women in high-status positions, such as professionals, face problems advancing their careers while caring for their children.

The passage doesn't compare conditions for today's working mothers with those that existed 20 years ago **(C)**. Although lines 18–21 imply that reasonably priced childcare can be difficult to find **(E)**, the passage doesn't go so far as to suggest that the expense of childcare often makes it unprofitable for mothers to work.

6. (B)

The gist of paragraph 4 is that even women of high ability and status—professionals—face career problems if they decide to have children.

(A) is a 180° trap. The point of paragraph 4 is to explain that even the most able women may *not* be able to "overcome" the difficulties "of integrating career and motherhood."

Paragraph 4 does not address labor policies **(C)** or increasing female participation in the labor force **(D)**. Moreover, the author doesn't ever "defend changes" or "modify a hypothesis."

(E) is too vague. Paragraph 4 draws a definite link between career opportunities and children: It's not about a general lack of career opportunities for women.

- When you're asked about the *why* of a detail, pay careful attention to the context in which it appears.

7. (C)

The second sentence of paragraph 1 says that rates of pay and promotion are worse for women than for men. The next sentence attributes this situation to the fact that women have responsibilities at home that interfere with their jobs.

The passage states that some women work part time (lines 23–25), not that women in general tend to get work in industries that rely on part-time labor **(A)**.

Paragraph 4 indicates that professional women sometimes lack the technical skills of their male counterparts **(B)** but this isn't the reason the passage gives for their inferior pay and promotion rates.

According to lines 26–27, part-time women, not women in general (as choice **(D)** says), are likely to be laid off in an economic slowdown. Besides, this fact has nothing to do with inferior pay and promotion rates.

(E) is outside the scope of the passage: the author doesn't discuss general workplace discrimination against women.

- Don't overthink. Go to the relevant portion of text and find the answer.

8. (D)

The legislator in question 8 argues (here's the conclusion) that the state ban on casino gambling should be rescinded because (here's the evidence): 1) it's inconsistent with other state policies; 2) it's "impractical" because efforts to enforce it are hopeless; and 3) legalizing gambling would reduce the crime rate. We're asked for the best weakener, and *in an argument that makes a proposal, we know to look for a choice that shows that the proposal won't achieve its goal (usually for a reason the author hasn't considered) or that it carries unacceptable side effects*. **(D)** says that legalizing gambling would attract criminals who habitually engage in illegal activities other than gambling. Although their gambling would now be legal, as the author argues, **(D)** strongly suggests that these criminals would bring other illegal activities to the state. This gravely weakens the legislator's claim that legalizing gambling would reduce crime.

The key to rejecting the incorrect choices lies in accurately remembering the legislator's argument; beware of choices that attack claims she didn't make or undermine a conclusion that she didn't draw. **(A)** implies that dropping the ban would reduce gambling and **(C)** implies that it may increase it. Yet the legislator's argument requires neither that gambling remain popular nor that it not become more popular. As for **(B)**, the legislator never gave "significant savings" as a reason for revoking the ban, so the news that there won't be any such savings doesn't hurt her. It's not at all clear what effect, if any, **(E)** has on her proposal. That alone is good enough reason to discard it. *Remember, in GMAT Critical Reasoning you don't want to make an argument on behalf of an answer choice. If the connection between a choice and an argument is vague or tenuous, look elsewhere.*

9. (D)

The Kaplan strategy of *looking at the question stem before tackling the stimulus* really pays off with question 9. We're given the conclusion—that the cat in question is acting out its dreams. We'll be looking for the researchers' evidence, and in order to answer the question, we'll be thinking along the lines of adding to this evidence so as to further support the conclusion. Realizing all of this before we even read the stimulus makes it easier to find the pertinent material.

Before neuron removal, we're told, the dreaming cat's cortex fires messages but the cat doesn't respond. After neuron removal, the dreaming cat jumps around while still asleep. We want to strengthen the conclusion that the cat is acting out its dreams. **(D)** establishes that the neurons prevented the cerebral cortex's messages from reaching the spinal cord during sleep. Therefore, the removal of the neurons allowed, for the first time, messages to reach the spinal cord while the cat slept. This makes it more plausible that when the cat pounced, it was responding to those messages—acting out its dreams.

(A) is ambiguous and unhelpful. If the neurons removed trigger the dream state, then their removal would presumably prevent the cat from dreaming; in that case, it couldn't have been acting out its dreams. If the cat was already in a dream state when the neurons were removed, then we have no idea about the effect of removing the neurons. **(B)** adds nothing to the information in the stimulus. We already know that the cerebral cortex is busy during sleep. And from the strategic point of view, **(B)** ignores the experiment with the neurons, and that's precisely what we're interested in; *always be wary of choices that ignore a critical part of the stimulus*. If **(C)** were true, there would be no messages, therefore no dreams, coming from the cerebral cortex after the neurons were removed, so the cat couldn't be acting out its dreams. Be careful; *on Strengthen/Weaken questions, the testmakers commonly present choices that have the opposite effect of the one they ask for*. **(E)** is irrelevant, as "brain waves" (*a new term, be wary*) don't matter. We're interested in how brain messages (dreams) travel; specifically, what stops them from being acted on during the sleeping state.

10. (A)

From a quick scan of the answers, you see the main difference is between choices that use *is* and choices that use *was*. Now, use logic. Pay attention to the time clue *recently*. The shepherd's body was only *recently* found, so it wouldn't make sense to put the discussion of "How long ago did he live?" in the past. *Is*, in **(A)** and **(D)**, must be correct. It's also important to be able to recognize and quickly eliminate illogical choices like **(D)**. **(D)**'s wording doesn't really make sense. If the dead person is "thought of as apparently living," he wouldn't be a corpse.

11. (C)

Pick up on clues. The sentence begins "In contrast to," so there *has* to be some kind of contrast. Problem is, the original version doesn't give you one. It uses the connector *and* to join the sentence halves. Scanning choices, we see that **(B)**, **(C)**, and **(D)** all end with *but*. This makes sense—American poetry is *not* distinct *but* an outgrowth. However, **(D)** uses the unnecessary *it was considered by*. Avoid the passive when you can. Finally, every time you see a connector like *not . . . but*, remember you need parallelism between the part of the sentence following *not* and the part following *but*. **(C)** gives it to you.

Passage 2—Freedom of Information Act

Topic and Scope: Freedom of Information Act; specifically, the amendments to the Act.

Purpose: The author's intent is to describe the positions and roles of the government's legislative, judicial, and executive branches in regard to the Freedom of Information Act's revision.

Paragraph Structure: Paragraph 1 describes the Freedom of Information Act and provides the historical context for the revision process. Paragraph 2 outlines proposed House and Senate amendments. Paragraph 3 reveals that the executive branch was opposed to these amendments. Paragraph 4 adds more detail about the legislative amendments. Paragraph 5 indicates that the legislative and executive branches unsuccessfully sought compromise; the amendments were adopted despite an executive veto.

The Questions

12. (C)

Lines 27–29 say that the Justice and Defense departments objected to revision as "costly, burdensome, and inflexible." They opposed revision, in other words, for administrative reasons.

According to lines 29–31 the Justice and Defense departments argued that changes "might actually hamper access to information." But they did not go so far as to suggest that the revision was an attempt to limit public access to information **(A)**.

Although the Pentagon thought that revision might pose national security problems, it didn't argue that changes violated specific national security agreements **(B)**.

(D) and **(E)** are outside the scope: neither the Justice nor the Defense department protested revision on the grounds that it would weaken either their power or presidential authority.

- The correct answer to an Explicit Detail question is always there in the text. Find and reread the relevant piece of text. Don't pick an answer based on a hunch.

13. (A)

The Pentagon voiced this argument, apparently concerned that the judiciary did not have the "departmental expertise" to determine which military records could be released without jeopardizing national security.

(B) and **(C)** speak of records in general, not military records in particular, so national security isn't necessarily at issue in these choices.

(D) says that some judges may be politically motivated, but that doesn't mean that they'll jeopardize national security.

(E) doesn't connect judicial review to national security. Does the President's approval have any necessary connection to national security? Nothing within the passage would imply this. You will never have to add information or make unwarranted assumptions to justify the correct answer. That kind of creativity isn't rewarded on the GMAT.

- Learn to spot and eliminate answer choices that are too broad in scope.

14. (A)

Lines 43–46 indicate that Ford was opposed to the release of FBI records. He didn't want them to be open to public scrutiny.

(B) and **(E)**—180° choices—wrongly suggest that Ford was open to the idea of a release of FBI records.

Ford might have opposed a release of FBI records for administrative reasons **(C)**, but the passage doesn't say for sure.

There is no hint in the passage that Ford believed it was more important to protect confidential sources than personal privacy or investigative secrecy **(D)**. Paragraph 4 tells us that all three are protected by the Hart amendment, but no distinction like **(D)**'s is drawn.

- Don't go too far with inferences. The correct answer is usually a paraphrase of information in the passage.

15. (D)

Here's a great example of how concision is rewarded on the GMAT. There's no need to use an awkward construction like "at least as much as a hundred and more" when **(D)** says the same thing simply and concisely.

16. (C)

In question 16 you're asked to compare two rival theories; this is a GMAT question type that crops up regularly. *The key is understanding exactly what is under dispute and exactly which theory you're concerned with.* The traditional theory says that Neanderthals were simply superseded by modern humans and there was virtually no interbreeding between the two groups. The new theory says that modern humans evolved from Neanderthals and from other early types of *Homo sapiens*, and are therefore descendants of Neanderthals. So the dispute is whether Neanderthals were supplanted by a rival group of unrelated humans, or by humans who were at least partly descended from them. We're asked to support the new theory. **(C)** does that by presenting a physical similarity between the early modern humans and the Neanderthals, both of whom lived in central Europe. So we have sort of a "missing link" between the two groups; this doesn't prove the new theory, but we are only asked for support. *On GMAT "strengthen the argument" questions, proof isn't necessary—the argument need only be more likely.*

Keep track of the question and the different theories! **(A)** provides more support for the old theory than for the new one: If modern humans first appeared in Africa and then migrated to Europe, they can't have evolved from "the Neanderthals of Europe." **(B)** might seem tempting, but these similarities between Neanderthals and modern humans are only cultural; they don't imply a close physical relationship between the groups. **(D)**, like **(B)**, compares the cultures of the two groups, but it points out differences. Since cultural similarities don't provide much support for the theory that the groups are biologically related, cultural differences don't either. **(E)** refers to "unique physical traits" of Neanderthals, which is the opposite of what we want. We want something that suggests a biological link between Neanderthals and modern humans, whereas **(E)** sets Neanderthals apart.

17. (E)

Whenever you see a sentence with the word *like*, remember that it must compare the same type of things, using language that is similar. Ingesting lead "was a significant health hazard *for* the ancient Romans," just as it "is *for* modern Americans." What's being compared is the hazard *for* Romans and *for* Americans, not the hazard *to* Romans and Americans. Only choice **(E)** makes this clear.

18. (D)

When an introductory phrase is set off by a comma, make sure it logically refers to what follows. It's not Nathanael West's first novel, or "when Nathanael West was staying in Paris," that was "born Nathan Weinstein." It's Nathanael West himself; only **(D)** makes this correction.

19. (E)

Reading the question stem first (always a fine idea) for question 19 warns you to be on the alert for something the author has overlooked. The author argues against the notion that fertility treatments are responsible for the increased incidence of twins by presenting an alternative explanation—that the increase has occurred because more women are having children later in life, and these older women are statistically more likely to bear twins. This sounds plausible, but remember *the key questions in GMAT causal arguments: Can the causality be reversed? Is coincidence confused for cause? Could another cause have been at work?* If women over 35 are much more likely to use fertility treatments that often result in twin births, then it's possible that the twin births among older women are in fact due to fertility treatments. The problem **(E)** points out is not that the "alternative explanation" is illogical or impossible, but that it might be dependent on the very explanation it's supposed to replace.

(A) and **(D)** introduce irrelevant considerations. The author's argument is that fertility drugs aren't responsible for the increase in twins. It doesn't matter that, as **(A)** says, many of these older women aren't first time mothers. Nor does it matter that, as **(D)** says, these older women are no more likely to produce *identical* twins. As for **(B)**, the author's point was simply that women over 35 are more likely to have twins than are younger women; her argument doesn't require that only women over 35 bear twins. **(C)** is wrong: since the author argues that the drugs are not responsible for the increased incidence of twins, she must believe, rather than overlook, the idea that any correlation between drugs and the increase of twin births is coincidental.

Passage 3—Predicting Earthquakes

Topic and Scope: Earthquake prediction; specifically, the passage outlines factors that contribute to earthquakes and that lend themselves to scientific measurement for prediction purposes.

Purpose: The author wants to show that scientists have several methods of monitoring quake-related activity and making predictions.

Paragraph Structure: Paragraph 1 explains that quakes result from identifiable, predictable phenomena. Quake prediction is based on "long- and short-range precursory phenomena." Paragraph 2 differentiates quake-prone regions along active faults near the Pacific from less quake-prone inland regions. Paragraph 3 is about the monitoring of quake-prone zones by networks of "base stations." Various types of precursors are mentioned. Paragraph 4 explains that different types of "short-term" precursors are still being identified.

The Questions

20. (C)

Paragraph 1 contrasts coastal regions, where crustal strains build rapidly, with inland regions, where strains build more slowly. **(C)** paraphrases that distinction.

(A) flatly contradicts the passage—the first paragraph states that crustal strain is great in coastal regions.

(B) contradicts the passage—quakes are less numerous in *inland* areas.

(D) also contradicts the passage—you can infer that in coastal areas, which experience frequent quakes, precursory phenomena must be common.

(E) contradicts the passage—paragraph 1 indicates that coastal regions confront thrusting sea floor plates.

21. (E)

Choice **(E)** encompasses the passage's Topic and Scope, plus the content of all four paragraphs—the importance of precursors.

(A) is too narrow—the passage says little about earthquakes in inland areas.

(B) mentions introductory information in paragraph 1. It neglects the passage's Topic—methods of earthquake prediction.

(C) has the same problem as **(A)**—it's too narrow. Coastal regions are only part of the picture in this passage.

(D) is also too narrow, and it's inconsistent with the passage. Precursory phenomena are key to earthquake prediction.

- Answers to Primary Purpose questions must be consistent with the information in every paragraph.

22. (D)

This is the best choice. The focus of the paragraph is on "precursory phenomena," which seismologists study in order to predict quakes.

(A) is too narrow—the relationship between accumulated and critical strain only comes up at the end of the paragraph.

(B) is also too narrow—the need to space base stations at precise intervals is a minor point made at the beginning of the paragraph.

Inland and coastal areas are compared **(C)** in paragraphs 1 and 2, not in paragraph 3.

The paragraph never suggests "that critical strain is not spread evenly along most major fault lines," **(E)**.

23. (A)

Choice **(A)** is consistent with the concluding sentence of paragraph 3. Calculations based on an area's critical strain can help in predicting when a quake might occur.

There is nothing anywhere about calculating "the severity of an initial rupture" **(B)**.

It's unclear what the term *seismic force* means, so **(C)** is no good.

(D) refers to an unrelated detail from the beginning of the paragraph.

(E) is tempting, but **(A)** captures the idea more precisely. The passage is about earthquakes, not crustal movement in general.

24. (D)

In question 24, the Federal government provided low-cost flood insurance to coastal property owners. Unfortunately, this caused a new problem—the resulting boom in coastal construction has led to dangerous land erosion. In GMAT Critical Reasoning, *the first task in solving a problem is to correctly identify the cause of the problem*. The cause here is construction, both existing and expected construction. Since beachfront construction caused the erosion, a good solution would be to put an end to this construction. **(D)** would likely accomplish this. Not only does it discourage new construction by canceling flood insurance benefits, but it may well facilitate removal of some of the existing dwellings by compensating residents to relocate.

(A) may prevent the construction of property additions, but it wouldn't do anything to halt the boom in the construction of new buildings or to get rid of existing buildings. As for **(B)**, we already know that the erosion rate is "dangerous"; that's why we're looking for a choice that suggests a solution. Recommending further study isn't a solution. **(C)** sounds like a good plan for preventing flood damage to new buildings. We are asked, however, to prevent erosion, and we're given no reason to think that elevating houses will do so. **(E)** makes the same mistake. **(E)** would protect the buildings from flood damage, but the problem we're to address is that of protecting the beaches from erosion.

25. (B)

This sentence is showing an advantage of "serging" over "single needle sewing." The advantage comes from having the seam allowance overcast *as the garment is being sewn*. This is compared to the seam allowance being overcast *a separate process….* This makes no sense—the second choice should have the seam allowance being overcast *in* a separate process, as choice **(B)** has it. Choice **(E)** also uses the preposition *in*, but its comparison phrase *as against being done* is much wordier and more awkward than **(B)**'s straightforward *rather than*. **(B)** is correct.

26. (A)

The author says that conventional methods of measuring intelligence, such as IQ tests, classify people with Williams syndrome as retarded, on a par with Down's syndrome sufferers, because they're poor at math and can't tell left from right. He calls this label "misleading," pointing out that people with Williams syndrome are often gifted in other areas, such as language and music, whereas Down's syndrome sufferers have limited abilities in all areas. His point in telling us this is that the conventional tests don't do a good job of evaluating the people with Williams syndrome, since they miss the gifts that these people have. That's **(A)**: His argument is that conventional intelligence tests can't accurately measure people with disorders like Williams syndrome.

When you're asked for the author's point, be careful not to be misled by choices that simply restate a part of the author's argument. For instance, **(B)** may or may not be true (it's not stated by the author), but it's not the author's main point. He compares the two syndromes to make another point, about the failure of conventional intelligence tests. **(C)** is closer: the author seems to imply **(C)**, but this isn't what he's trying to prove. It's merely a piece of his argument, something that he implies on the way to making his point about the failure of intelligence tests to measure people with Williams syndrome. **(D)** discusses what might happen when people with Williams syndrome are diagnosed as mentally retarded, but the author's focus is on the mislabeling itself, not on its possible results. Like **(C)**, **(D)** seems reasonably inferable from the argument, but isn't the point of the argument. As for **(E)**, the author never suggests that the mathematical and spatial skills of people with Williams syndrome either can or should be developed.

27. (E)

After reading the stem for question 27, we go to the stimulus with eyes peeled for Koch's counterargument. Koch, we learn, is unconvinced by von Pettenkoffer's dramatic demonstration. When, after drinking a bottle of bacteria, von Pettenkoffer doesn't develop cholera, he claims to have proved that the bacterium doesn't cause cholera. Koch disagrees, saying that von Pettenkoffer's stomach acid killed the bacteria before it could affect him. Be careful; we don't want to strengthen Koch's original argument—that the bacterium causes cholera, but rather his second argument—that von Pettenkoffer's stomach acid killed the bacteria. **(E)** says that when the cholera bacteria is ingested with bicarbonate of soda, a stomach acid neutralizer, it's more likely that the person will develop the illness. **(E)**, then, shows that acidity has an inhibiting effect on cholera bacteria, exactly as Koch argued.

(A) sounds intriguing, but according to Koch, the primary way of transmitting cholera can't be through ingestion. So, according to Koch, extra acid shouldn't mean fewer instances of cholera, and **(A)** can't support his argument. **(B)** would explain why von Pettenkoffer didn't catch cholera, and leave it possible that the bacterium is indeed cholera-producing, but we want evidence to support the argument that stomach acid prevented von Pettenkoffer from becoming ill. **(B)** weakens that argument by pointing to antibodies. If **(C)** is correct, and cholera is endemic in areas where the bacteria is found in the drinking water, then the disease probably is being transmitted by ingestion; this weakens the claim that stomach acid kills the bacteria. **(D)** is outside the scope of the stimulus. The existence of *E. coli* bacteria in the lower intestine cannot support Koch's argument that stomach acid kills cholera bacteria.

28. (E)

There are several problems with the sentence as written, which scanning the answer choices will reveal. First, there is the distinction between the pronouns "they" and "it." Since the antecedent is "the Limon Dance Company," the pronoun must be singular: it. Eliminate **(A)** and **(B)**. Choice **(C)** has a verbal problem with the two helping verbs "has" and "will." Although "will" is followed by the correct verb form "continue," "has" must be followed by the participle "continued." Thus, choice **(C)** is incorrect. Choice **(E)** is preferable over **(D)**, because **(D)** is redundant. The verb "continue" implies that the company has already been presenting the artistic vision faithfully and so only the future "will continue" is necessary for the full meaning. Choice **(E)** is correct.

29. (C)

You can simplify long sentences like this one by zeroing in on what's being tested. The first thing to do is notice whether you see anything funny when you read the sentence. A key error is that "legislation" is singular, but "were," its verb, is plural. So **(A)** can be crossed off. Scan the choices now. How do the choices deal with this one error? **(E)** repeats it. **(D)**'s "has only mitigated" isn't parallel to its other verb, "abolishing." **(B)**'s "has only mitigated" is not parallel to "abolishing" either. Choice **(C)**, with "only mitigated, rather than abolished," has two parallel verbs. "Rather than" is a connector that must link grammatically parallel terms.

30. (A)

We need the choice that suggests most strongly that the judge was wrong to consolidate the cases. Remember, the judge agreed to consolidate the cases based on the precedent set by asbestos exposure cases. So the best way to cast doubt on the judge's decision is to break the link between the asbestos cases (his evidence) and these repetitive stress injury cases (his conclusion). **(A)** points out a significant difference between the two situations. In the asbestos cases the product in question was the same in each situation, while in the stress injury cases, the type and quality of office equipment is different in each case, suggesting that there may be differences in manufacturer liabilities. So there is less of a reason for combining the individual cases, and the asbestos cases make a poor precedent.

(B) is tricky. It might seem unfair that the judge's decision may benefit the defense by limiting the number of witnesses for the plaintiffs, but **(B)** doesn't attack the judge's reasoning, which was based on legal precedent. Instead, **(B)** weakens the author's argument that the decision will hurt the defense. **(C)** brings up a common cause of repetitive stress injuries, but doesn't tell us that it was actually the problem in these cases. More importantly, it does nothing to show that the judge was wrong to combine the cases. **(D)** points out a difference between asbestos exposure and repetitive stress injuries, but it's a difference in the severity of the injuries. This doesn't indicate that the judge was wrong to see a legal parallel between the two types of cases. As for **(E)**, the judge's decision to combine the cases doesn't in any way preclude an investigation of the medical condition that the plaintiffs claim. The judge hasn't assigned responsibility or rendered a verdict, only decided on a method of proceeding with the cases.

31. (C)

In questions like this, temporarily ignore words set off by dashes. Ignoring this material in each version should make it easier for you to "hear" what's wrong. In the original sentence, the actual subject is "each"; this singular pronoun doesn't agree with the plural verb "are." **(D)** reverses the problem: the plural "novels" doesn't agree with the singular verb "is." **(E)**'s "every one of the novels" makes the sentence a virtual run-on. **(B)** has subject/verb agreement but adds the awkward, wordy "each of them novels in William Kennedy's 'Albany Trilogy.'" **(C)** is much less awkward and also features agreement between the plural "novels" and "are," and is therefore correct.

32. (B)

We're told that from 1977 to 1989 the percentage of their own income that the richest one percent of Americans paid to federal taxes decreased. At the same time, the proportion (or percentage) of all federal tax revenues that was paid by these same rich Americans increased. We're asked to clear up this apparent discrepancy: a lighter tax burden on the wealthy resulted in their carrying more of the overall tax load. If, as **(B)** has it, the richest one percent are making much more money than they once did, then the actual amount of money they pay in federal taxes can increase, even though the percentage of their own income that this amount represents decreases. This increased amount of taxes paid could represent an increased proportion of the total federal tax revenues.

(A) suggests that the IRS has increased its tax-collecting efficiency, but this is irrelevant to the question of how one percentage can increase while the other decreases. **(C)** could explain how taxes on the rich account for more of the total tax revenues (because more of their investments are taxable), but it doesn't explain why these increased taxes account for a smaller percentage of their incomes. **(D)** raises new questions. If we assume (which we can't) that the elimination of loopholes hurt the rich more than the tax cut helped them, we could see how they might pay more taxes despite the cut in the top tax rate. But that just presents us with the old problem: If they're paying more taxes, how can they be paying less of their income to taxes? On the other hand, if we assume (which we can't) that the tax cut in **(D)** means they're paying less in taxes, how can they be bearing more of the tax burden? *On a question asking for an explanation, avoid any choice that leaves you wondering.* **(E)** shows how the richest one percent account for a higher percentage of overall tax revenues. They've paid an additional 45 billion dollars while everyone else has only had to come up with an additional 5 billion—the 5 billion left from the 50 billion after subtracting the 45 billion that the very rich paid. However, this leaves out the other part of the dilemma—it doesn't show how they can be paying less of their income.

Passage 4—Food Contamination

Topic and Scope: Food contamination; specifically, the various hazards that can contaminate food and lead to human illness.

Purpose: The author's Purpose is to describe the kinds of food contamination that foodservice managers must be aware of in order to prevent illness. The necessity of the prevention is the Main Idea.

Paragraph Structure: Paragraph 1 is about the definition of food contamination and the three major hazards, and the reminder that it's still important to be on guard against contamination. Paragraph 2 focuses on the hazards; specifically, the most serious risk, biological. It contains a good deal of detail, in particular on biological infection; note it, but it is unnecessary to memorize or even understand it all. Paragraph 3 does more of the same: continuation of biological discussion, in particular biological intoxication—more definitions and examples, but nothing that changes the overall idea that we must be on our guard against contamination.

The Questions

33. (C)

Choice **(C)** is the only one that effectively captures the Main Idea of the entire passage rather than one specific aspect or detail of the passage.

(A) uses some wording from paragraph 1, but leaves out the issue of contamination altogether, and specifically the idea that knowledge of contamination is what's necessary. **(B)** focuses on a mere detail of paragraph 2—that biological hazards are the most serious. But that's certainly not the main point. **(D)** and **(E)** are also statements that may be true, but don't encompass the whole passage. *Wrong choices in Global questions will often be true statements that nonetheless don't rise to level of Main Idea. Here, only* **(C)** *is broad enough to cover the passage's Topic, Scope, and Purpose.*

34. (A)

Not every inference ventures far from the main point or basic gist of the author's argument. **(A)** fits the bill nicely. Note how closely related this is to the author's overall point.

(B) is a distortion. Although the sources of contamination seem varied and complex, there is nothing here to suggest that a diligent food service manager will be restricted in the amount she can know about contamination.

(C) misses the scope of the passage by focusing on the decision to *hire* a manager. Even if we infer that a manager's understanding of these issues must be a consideration in hiring, since it's so important, we still can't say it's the *primary* consideration. **(D)** uses the extreme word "exclusively," and consequently is too extreme. In fact, the author states that prevention is only part of the battle—knowledge is also necessary so that a manager knows what to do "in the event that a . . . crisis does arise."

(E)'s pessimism is reminiscent of **(B)**. A clear understanding of the author's purpose and tone allows us to eliminate choices like these that don't jibe with either.

The first few words of **(E)** are on the right track; in fact, "vitally important" is synonymous with **(A)**'s "crucial." But the whole choice needs to fit, and the rest of **(E)** misses the point.

35. (D)

The striking term "pathogenic organisms" that appears in the question stem is relatively easy to locate in paragraph 2. Correct choice **(D)** comes right out of lines 23–27, with the Keywords "such as" acting as the link between pathogenic microorganisms and bacteria and parasites. Even in a passage with lots of unfamiliar terms, it all boils down to good critical reading. Let's look at the wrong choices. In **(A)**, the passage doesn't tell us what the most common form is. Nothing in paragraph 2 suggests **(B)**, but paragraph 3 actually suggests the opposite—some microorganisms can cause disease even after being killed. A careful reading of the sentence in which "pathogenic organisms" appears shows that choice **(C)** distorts the meaning of the sentence. Toxins are not the same as pathogenic microorganisms. **(E)**: How hard it is to detect pathogenic organisms is outside the scope—never mentioned or implied.

36. (B)

It's not the new technology that's "employing the system of binomial nomenclature." Only people can do that. You need the choice that has a group of people as its subject, and that's **(B)** with "taxonomists." Don't be thrown by technical language. You don't have to understand anything about taxonomy or "binomial nomenclature" to see that the underlined part of this sentence should feature a subject that can be logically modified by the preceding phrase.

37. (B)

GMAT English is precise. In everyday speech, you can get away with "I have a lot of pressure at work," when you mean "I am *under* pressure." On the GMAT, you can't. You have to use the correct idiomatic phrase, which is "*under pressure to* show high profits." Choices **(C)** and **(D)** both use "showing"; always be wary of "–ing" verbs. **(E)** adds needless verbiage.

38. (B)

Question 38's stimulus describes how two regions of a country were affected differently by the same crisis. Although demand for both the tropical crops of Region *A* and the basic foodstuffs of Region *B* was only slightly affected by the drop in income levels after 1929, Region *A* was much more affected by the decrease in demand. The author gives us a hint when she says that Region *B* "could adjust the supply of its crops." *Whenever we get a hint on an Explanation question, we take it.* So what we look for when we go to the choices is the reason why Region *B* was able to survive the decrease in demand by adjusting the supply of its crops, while Region *A* could not make these adjustments. The best reason is provided by **(B)**: since annual crops are renewed each year, the supply can easily be adjusted for the following year. Perennial crops, however, live longer than one year, so adjusting the supply isn't easy. What you plant one year has an impact on the supply of crops for a long time; small, quick adjustments can't be easily made. So **(B)** provides information, consistent with the clue we found in the stimulus, that explains why Region *A*'s farmers couldn't follow the example of their colleagues in Region *B*. Even if you were confused by annual versus perennial, **(B)** explicitly tackles the question of why Region *B*'s crops were more easily adjusted. That's a tip-off that **(B)** is correct. Notice that it isn't necessary to understand what economic forces were at play here. *Like Reading Comprehension, Critical Reasoning isn't about understanding every background detail. It's about understanding what the author is interested in telling you.* In this question, that's the information in the last two sentences.

(A) tells us that Region *A*'s crops cost more than Region *B*'s crops, but we've already been told that demand for Region *A*'s crops hasn't dropped much, so we can't take this to mean that the crisis made Region *A*'s crops unaffordable. In general, one would expect the higher prices for Region *A*'s crops to make its economy stronger. **(C)** says that Region *A*'s tropical goods are less prone to drops in demand. Again, that's not bad news for *A*'s farmers, so it doesn't explain the disaster that befell them; besides, the stimulus already told us that demand for the two regions' crops dropped about the same. **(D)** tells us about the competition that Region *B* faced; clearly that doesn't help to explain its success, or Region *A*'s failure. **(E)** just expands on information we already have. We knew that demand for Region *B*'s crops only declined a bit—now we know why. However, demand also dropped only a bit for Region *A*, so **(E)** does nothing to explain the differing fortunes of the two regions' economies.

39. (A)

In a complicated sentence like this, it's probably best to focus on eliminating wrong answers. There are some wrong phrases that are obvious, for instance, the awkward, unidiomatic "such a number of Astronomy majors in a given year as there are today," in **(D)**. There's also the confusing "a number of Astronomy majors such as there are today," in **(C)**. It's unclear what that phrase means, and **(C)** also begins with the illogical "while." Looking at the other choices, you see that **(B)** is both awkward and confusing. The meaning of "as many . . . as there are in a given year today" is unclear. **(E)** has the bizarre locution "a number . . . just as large . . . as the number that is there today." This is both awkward and wordy.

Notice how much text is underlined in this sentence. There will only be a few such questions in each section, and they're good ones to take a quick guess on if you're pressed for time.

40. (E)

You need to be precise and logical to get a question like this right, but you don't need to be a grammar expert. Think about what the sentence is trying to tell you. Chesnutt's fiction reflects the "interests of his contemporary 'local colorists,'" and it also reflects "the intellectual ferment" of the time. In short, his fiction reflects one thing *as much as it does* another. The word "does" is critical, since "reflecting one thing" is compared to "reflecting another thing." Choice **(E)** is correct because it alone contains this logical and idiomatic form of comparison. **(E)**'s "does" is also the only verb that correctly parallels the verb "reflects" in the first part of the sentence. Choices **(B)**, **(C)**, and **(D)** all contain verbs—"did," "had," and "was"—that aren't consistent with the present-tense "reflects"; they all add awkwardly wordy phrasing, too.

41. (A)

Be familiar with idioms likely to appear on the GMAT. The correct idiomatic construction is "just as one thing happens, so another thing happens." Knowing this, you can narrow the choices down to **(A)** and **(E)** here. What follows "just as" must parallel what follows "so." That's why **(E)** can't be right: "Just as the various *languages*" isn't parallel to "so *it is* in U.S. culture." In **(A)**, "the various languages" correctly parallels "the many musical traditions."

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