that leaves two possible orders of cars, with an initial standing for each color.
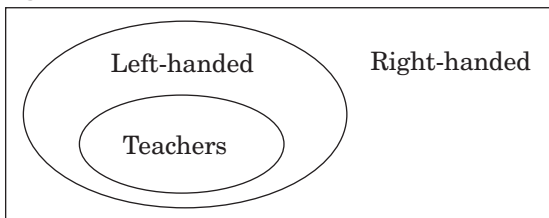
OSBW   OSWB

Thus, we cannot determine who stands at the far right, Patrick (the brown car) or Marquise (the white car), so the answer cannot be determined (Option K).

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17. (**A**) Write "FIRST" on the left side of your scrap paper. Using the initial for each horse's name, list what each statement says about which horse entered before or after other horses. (Notice that these positions are relative to each other. The problem does not give any definite information about a horse's position.)

FIRST   1. SR
             2. AER
             3. ETS

Now combine the information into one list: AETSR. Thus, the fourth horse was Silver (Option A).

---

18. (**F**) Represent the first sentence in a diagram like this. (Everyone who is not left-handed can be considered right-handed.)

The second sentence states that every Cordovian teacher is also near-sighted. However, the problem does not provide enough information to determine where to place near-sightedness on the diagram. We do not know whether all near-sighted Cordovians are teachers (Option K) or are left-handed (Option J). Similarly, we do not know whether all left-handed Cordovians are teachers (Option H). Option G is incorrect—the first sentence states that all Cordovian teachers are left-handed. Only Option F must be correct.

19. and 20. *Read the directions carefully. The letters in a sentence may or may not appear in the same order as the words in that sentence. For example, in the first sentence, the first letter (L) may or may not represent the first word (Michelle). You need not find out what every letter represents in the code.*

19. (**C**) The letter Q appears only in the first sentence. Thus, the word represented by Q must appear only in the first sentence. That word is "Michelle" (Option C).

20. (**K**) The word "paints" appears only in the first and third sentences, so start by identifying the letters that appear in both the first and third sentences—L, P, and R. However, the letter R appears in all four sentences and thus cannot represent the word "paints." Either L or P could represent "paints," but there is no way to figure out which is correct. The answer cannot be determined (Option K).

Reading

Colors

21. (**E**) The first question for a Reading passage always asks for the general theme of the passage. The correct answer must encompass the main points without being overly broad. Option A is incorrect because the passage is about genetic changes in plants, not in birds and insects. Options B, C, and D are mentioned but are not the main themes. Option E is best. The development of colorful blossoms includes genetics, mutations, pollination, and blossom colors, all of which are discussed.

---

22. (**K**) The passage says that night-flying moths are attracted by white flowers, whose paleness is visible by moonlight (lines 58-60), which is Option K. Options F and H are incorrect because daytime insects, not nighttime insects, are attracted to red and blue flowers. The passage does not say anything about the attractiveness of yellow flowers with blue centers (Option G) or bright green flowers (Option J).

---

23. (**A**) The color frequencies among blossoms are discussed in the second paragraph. According to lines 21-23, blue flowers are rarest because relatively few mutations resulted in that color. Option A restates that information. Options B, C, and D are not mentioned, and there is no information in the passage to determine whether Option E is true.

24. (**G**) The flowers of 150 million years ago are described in the first two sentences. They were either green or white, depending on whether they contained chlorophyll, which is Option G. Options F and H are not mentioned. Option J is incorrect because the reading passage mentions oak blossoms and dogwood blossoms as **examples**, implying that other green and white flowers existed as well. Option K cannot be correct because at that time there were no colorful flowers to attract insects.

25. (**E**) The answer is found in the first sentence of the fourth paragraph: to search for nectar, which is Option E. Options A and B might seem attractive, since birds and insects do fertilize plants and help plants reproduce. However, that is the unintentional result, not the reason, for birds and insects to travel from one plant to another. Options C and D imply that the birds and insects desire to change plant characteristics. Again, this may be the consequence, but it is not the intention.

26. (**H**) To answer this question, look at the entire third paragraph, not just lines 28-29. Option H best summarizes how pollination occurs—by wind, water, or flying creatures, which can be considered "outside assistance." Options F and K are true statements as written, but they do not answer the question about "outside assistance." There is no information in the passage to support Option G. Option J is incorrect because it does not explain what "outside assistance" means.

Camera

27. (**D**) Options A, B, and C are mentioned in passing, but they are not the themes of the passage. Option E is mentioned only in the last paragraph. Option D best describes what the passage is about—early versions of the concealed camera, examples of its uses, and its role in spy craft.

28. (**K**) The answer, Option K, is found in lines 9-11. Despite the name of the camera, amateur photographers, not detectives, used this camera.

29. (**D**) The correct answer, Option D, is found in lines 9-12. It is true that early detective cameras resembled boxes (Option A), but that was not their purpose. Options B, C, and E refer to other kinds of cameras, not early detective cameras.

30. (**J**) According to lines 23-25, the camera with mirrors allowed the photographer to aim the camera in one direction while photographing something in another direction (Option J). Options F and G refer to early detective cameras, not the camera with mirrors, which resembled an ordinary camera. Option H describes a different use for cameras, as presented in the third paragraph. Option K is not mentioned in the passage.

31. (**A**) The correct answer is found in lines 17-19. Option A restates the idea that people were no longer deceived by detective cameras. None of the other options is supported by the passage.

32. (**G**) Reread the entire third paragraph to understand the "idea" in line 40. The attempt to use pigeons to photograph the enemy's army position was impractical, but the "idea behind it" was not impractical. In other words, the idea of taking photographs from overhead, without detection, was practical, which is Option G, and the passage gives the example of satellite-mounted cameras to illustrate its practicality. Options F and J were true of other cameras as well as aerial photography, and are too broad to be the "idea" referred to in line 40. Option H describes a use for aerial photography and is not the "idea." Option K refers to the impractical attempt, not to the idea behind it.

No Summer

33. (**B**) Options A and E are details, and Option D, while important, is not the main theme. Option C might look attractive, but the passage is about much more than agriculture in New England. Option B best incorporates the description of the strange summer of 1816 and its possible cause.

34. (**F**) The correct answer requires you to make an inference based on information provided early in the second paragraph. Lines 15-16 state that farmers "prepared to plow and plant;" they "expected warm temperatures" (lines 16-17) and were "optimistic" (line 18). Thus, the correct inference is that the farmers expected the weather to be normal and expected their crops to grow, which is Option F. Options H and K are incorrect because the snow and cold weather worsened growing conditions. The replanted crops were stunted or destroyed (line 27), ruling out Option G. Option J is not true; by July, the weather showed little improvement (lines 28-29).

35. (**C**) The winter of 1816-1817 followed the meager harvest of the summer of 1816. With many crops stunted or destroyed (lines 27-28), one would expect food shortages the following winter, which is Option C. Option A is not mentioned. Options B, D, and E are contradicted by information in the passage.

36. (**J**) Reread the entire fourth and fifth paragraphs to understand the phrase "the global nature of weather." They explain how a volcanic eruption in Indonesia affected the weather in New England. In other words, conditions in one part of the world (Indonesia) can affect weather in another part of the world (New England), which is Option J. None of the other options are supported by the passage.

37. (**B**) To answer this question, assume that the "year of no summer" was indeed caused by the eruption of Mount Tambora and the lingering dust in the atmosphere. Based on the information in the passage, what else would you expect to have happened? Option B seems possible; dust from the volcanic eruption might block the sunlight and lower temperatures in other areas of the world as well. Options A, C, D, and E are not supported by the passage.

38. (**K**) Bessel's theory is summarized in lines 54-57, and Option K restates his theory. Option F is contradicted by lines 35-37, and Option G summarizes the belief of "some religious leaders" (line 40), not Bessel's theory. Options H and J may or may not be true statements, but they were not part of Bessel's theory. The eruption of Mount Pinatubo occurred nearly two centuries after the eruption of Mount Tambora, long after Bessel's lifetime, so he could not have compared the two events.

David

39. (**E**) While the passage presents general information on Neoclassicism, it focuses on one Neoclassical painting by Jacques-Louis David and its relationship to the revolution against the French monarchy in the late eighteenth century. This theme is best summarized in Option E. Options A and C are both contradicted by facts presented in the passage. Options B and D may both be true, but they are not the theme of the passage.

40. (**G**) The opinion of art critics about David's painting is presented in lines 39-40, which says that critics saw it as "too stark and severe." Option G restates this information. Option F is contradicted by line 24, which describes the story of the Horatius brothers as "famous." There is no evidence in the passage to support Options H, J, or K.

41. (**C**) Lines 10-13 describe the "classical style" and "heroic themes" that characterize Neoclassicism. The option that best reflects these qualities is Option C. Options A, D, and E are all examples of the "domestic scenes or stories from mythology" (lines 8-9) that were typical of artwork from earlier in the eighteenth century. Option B is unlikely given the political impact of Neoclassicism described in lines 51-53.

42. (**F**) The story of the Horatius brothers is summarized in lines 25-26: they were swearing loyalty ("allegiance") to the Roman republic, which is Option F. Option J refers to the sisters, not the brothers. Option H is incorrect because the father was already holding the swords, and Option G is incorrect because the passage describes the setting as **resembling** a stage, not actually being one. Finally, the painting shows an episode from Roman history, not French history, ruling out Option K.

43. (**B**) Neoclassicism as a movement is discussed in two places: at the beginning of the first paragraph and the end of the third paragraph. Reread these sections. You are looking for information on what the movement foresaw ("advance indication"). Lines 3-5 describe how Neoclassicism reflected attitudes that led to the "fall of the French monarchy." Similarly, lines 51-53 state that the movement's works reflected trends that "exploded into revolution." Thus, the correct answer is Option B. Options A and E both refer to an earlier art style, and Option C is an earlier period in history. The self-indulgence of the French monarchy (Option D) was occurring at the same time as the Neoclassical movement (lines 46-48).

44. (**H**) How the French middle class understood David's painting is discussed in the third paragraph, in particular in lines 44-49. The call to civic devotion and patriotism described here is best summarized in Option H. There is no support in the passage for Options G, J, or K. Option F is not likely given the attitude toward Louis XVI described in lines 51-53.

Debates

45. (**D**) Option A is too broad—the passage focuses on a specific event, not on entire careers. Option B is implied in the second-to-last paragraph, but is not specifically discussed. Option C is a detail, not a main point. The best summary is Option D, which includes considerations prior to the debates, the actual event, and some of the consequences. Option E is an important detail, but not the main theme.

46. (**G**) The answer is given in lines 7-9, which is summarized in Option G. Option F is a true statement, but it does not explain why people not interested in politics would watch the debates. Kennedy's attractive appearance is not mentioned in the passage, ruling out Option H. Option J does not make sense as a reason for watching the debates, and the passage says that Vice President Nixon was ahead in the polls, which rules out Option K.

47. (**A**) The first debate was limited to domestic issues (lines 26-27). Domestic issues are a country's internal affairs, not including international relationships. Only Option A presents a domestic issue, problems of American industry. The other options refer to issues involving other countries or regions of the world.

48. (**K**) Reread the last sentence of the passage, and then read each option before choosing your answer. The first three options are true statements, but they do not say anything about the effect of televising the event. The passage does not supply any information to support Option J. Option K is correct. Nixon's greater experience (lines 15-20) would have been more apparent to radio listeners who were not distracted by his poor television appearance.

49. (**C**) Kennedy's benefit is summarized in lines 49-53, especially his "charm, poise, and confident manner." These qualities are summarized by Option C: "his attractive personal characteristics." Option A is contradicted by lines 32-33, which state that both candidates dealt calmly and carefully with the issues. The debate centered on domestic issues, ruling out Option B. Options D and E describe Nixon, not Kennedy.

50. (**H**) The question asks you to use the information given in the passage to predict what would have happened if the debates had **not** taken place on television (for example, if they had occurred only on radio or in printed form). To answer the question, review the information given about each candidate before the debate. Nixon was ahead in the polls, an experienced public speaker, and had served as vice president (lines 15-20). Kennedy had been criticized for his relative youth and inexperience (lines 22-25). Without the televised debate, if events had followed their course, it is more likely that Nixon, not Kennedy, would have won the election, which is Option H. This line of reasoning rules out Options F and G. Option J is contradicted by lines 67-68. Nixon would have no reason to consider his on-screen performance, which rules out Option K.

51. (D) $\frac{4}{5}$ P = 48

$\frac{1}{5}$ P = $\frac{48}{4}$ = 12

$\frac{3}{5}$ P = 12 • 3 = 36

---

52. (G) Since 5.6 ricks and 12.88 dalts are both equal to 1 sind, then 5.6 ricks = 12.88 dalts. To calculate the number of dalts (d) in 1 rick, set up a proportion:

$\frac{5.6}{12.88} = \frac{1}{d}$

$5.6d = 12.88$

$d = 2.3$

---

53. (D) Since Jack scored a mean of 15 points per game in each of the first 3 games, he must have earned a total of 45 points for the first three games by definition. Use that information to calculate the mean over the four games:

$\frac{45 + 27}{4} = \frac{72}{4} = 18$

---

54. (G) $0.00102 = \frac{102}{N}$

$\frac{100{,}000}{100{,}000}$ • $(0.00102) = \frac{102}{N}$

$\frac{102}{100{,}000} = \frac{102}{N}$

N = 100,000

---

55. (C) According to the chart, 22% of people walk to work and 4% ride a bicycle. Subtract to find the percentage of how many more people walk than bicycle:

$22\% - 4\% = 18\%$

To find the exact number of people, multiply 18% (0.18) by the number of people working in Center City (15,000):

$15{,}000 • 0.18 = 2{,}700$

---

56. (K) Since Frances' age (F) is given, use that information to find Judy's age (J):

J = 2F = 2 • 15 = 30

So, Judy is 30 years old. Now, use that information to calculate Carmen's age (C):

C + n = J
C + n = 30
C = 30 – n

---

57. (C) To calculate the midpoint of a segment, add the values of the two endpoints and divide by 2:

Midpoint of $\overline{PQ}$ = $\frac{2 + (^-6)}{2}$ = $^-2$

Midpoint of $\overline{QR}$ = $\frac{6 + 2}{2}$ = 4

To find how many units from one midpoint to the other, subtract the midpoint values:

$4 - (^-2) = 6$

---

58. (F) Since the figure is drawn to scale, use the values from the grid to solve:

(c, d) = (1, 3) and (a, b) = ($^-2$, 1)

Then, $c + a$ = 1 + ($^-2$) = $^-1$, and

$d + b$ = 3 + 1 = 4.

The point ($^-1$, 4) is point R on the graph.

---

59. (C) $\frac{(^-51)(^-51)}{17 • 17 • 17} = \frac{(^-3)(^-3)}{17} = \frac{9}{17}$

---

60. (J) First, find the prime factorization of each number:

2,205 = 3 • 3 • 5 • 7 • 7
3,675 = 3 • 5 • 5 • 7 • 7

Now, determine what each prime factorization has in common, and multiply those:

2,205 = 3 • (3 • 5 • 7 • 7) = 3 • 735
3,675 = 5 • (3 • 5 • 7 • 7) = 5 • 735

The greatest common factor is 735.

---

61. (A) $|190 - 210| + |19 - 21| + x = 100$

$|^-20| + |^-2| + x = 100$

$20 + 2 + x = 100$

$x = 78$

62. (**H**) List in order the prime numbers between 6 and 36: 7, 11, 13, 17, 19, 23, 29, and 31. Since there are 8 numbers, find the middle two and calculate the mean to find the median of all the numbers. The middle two are 17 and 19. The mean is $\frac{17 + 19}{2} = 18$.

---

63. (**B**) The pitcher originally contained 44 ounces of juice (32 + 12). If x ounces of grapefruit juice is added, the pitcher now contains $44 + x$ ounces of juice. $12 + x$ ounces of that is grapefruit juice, which makes up $\frac{1}{3}$ of the entire juice mix. Use that information to set up a proportion to solve for x:

$$\frac{12 + x}{44 + x} = \frac{1}{3}$$

$$3(12 + x) = 44 + x$$
$$36 + 3x = 44 + x$$
$$2x = 8$$
$$x = 4 \text{ ounces}$$

---

64. (**G**) The question asks for the number of children with blond hair or brown eyes, but **not both**. According to the chart, 18 children have blond hair and *blue* eyes, and 15 children have brown eyes and *black* hair. $18 + 15 = 33$ children with blond hair or brown eyes, but not both.

---

65. (**B**) The scale is 1 foot = 0.25 inch. Since the rest of the question is in inches, change the scale conversion into inches: 1 foot is equal to 12 inches, so 12 inches = 0.25 inch.

Next, set up a proportion, where x represents the scale inches for a distance of 36 inches:

$$\frac{12}{0.25} = \frac{36}{x}$$

$$12x = 36(0.25)$$

$$12x = 9$$
$$x = \frac{9}{12} = \frac{3}{4} = 0.75 \text{ in.}$$

---

66. (**J**) Let x be the number of seventh grade students that must join to meet the president's wishes. There are 65 students currently in the club. The percentage of seventh graders is calculated by dividing the number of seventh graders by the total number of students in the club. Using the president's desired percentage of 40% (0.40), the equation is:

$$\frac{20 + x}{65 + x} = 0.40$$

$$20 + x = (0.40)(65 + x)$$
$$20 + x = 26 + 0.40x$$
$$0.60x = 6$$
$$x = 10$$

---

67. (**C**) The two-digit numbers must be even, so the only possible two-digit numbers must end in 8, since 8 is the only even digit given in the problem. Since the numbers cannot be repeated, the only possibilities for two-digit even numbers are 78 and 98. Thus, the answer is two possible two-digit numbers.

---

68. (**H**) If the ratio is 5 ounces of gasoline to 6 ounces of oil, then gasoline makes up $\frac{5}{11}$ of the fuel mix. Use a proportion to calculate the number of ounces of gasoline (x) in 33 ounces of mix:

$$\frac{x}{33} = \frac{5}{11}$$
$$x = 15 \text{ ounces}$$

---

69. (**B**) Angle LKN = 75° because vertical angles are congruent. The interior angles of quadrilateral KLPN sum to 360°. So, angle LPN = 360 – (120 + 120 + 75) = 45°. Angle LPN and angle QPR are vertical angles, so $x = 45$.

---

70. (**H**) Let x be the number of bundles needed for the roof's area of 416 square feet. Set up a proportion to find x:

$$\frac{x}{416} = \frac{3}{96}$$
$$x = 416\left(\frac{3}{96}\right) = 13$$

71. (B) First, change the improper fractions into mixed numbers:

$\frac{5}{2} = 2\frac{1}{2}$ and $\frac{20}{3} = 6\frac{2}{3}$

The integers between these two values are 3, 4, 5, and 6. So, there are 4 integers between $\frac{5}{2}$ and $\frac{20}{3}$.

72. (K) Since 714 is even, factor out a 2:
714 = 2 • 357. The sum of the digits of 357 is 15, so we know 357 is a multiple of 3:
714 = 2 • 3 • 119
Finally, 119 is divisible by 7, so
714 = 2 • 3 • 7 • 17

73. (A) Since R + S is odd, then one of the two variables (R or S) must be odd and the other must be even. Similarly, since T – S is odd, one of the two variables must be odd and the other must be even. Since S is common to both expressions, if S is odd, then R and T are both even; and if S is even, both R and T are odd. It is not possible to determine which of the two possibilities is true, so Options C, D, and E can be eliminated as the correct answer.

Option B (S + T) can be eliminated because if T – S is odd, then S + T is also odd.

Option A (R + T) is the only possible answer. If R and T are both odd, then R + T is even. If R and T are both even, then R + T is even.

74. (J) Calculate the locations of points E and F on the number line using the midpoint formula:

Point E = (point A + point C) ÷ 2 = $\frac{-4 + 6}{2}$ = 1

Point F = (point B + point D) ÷ 2 = $\frac{-2 + 10}{2}$ = 4

Now calculate the length of $\overline{EF}$: 4 – 1 = 3 units

75. (D) First, find the amount of the tax charged on the sale price:

$1.89 • 0.06 = $0.1134 = $0.11 (rounded to the nearest cent)

Then, subtract the original tax from the tax on the sale price calculated above:

$0.15 − $0.11 = $0.04

76. (K) Roberto began his first 5 hour watch at 6:00 p.m. Since he had 5 hours off before he began his second watch, the second watch began 10 hours after the first watch began. Thus, his third watch began 20 hours after his first watch began. 20 hours after 6:00 p.m. is 2:00 p.m. the next day.

77. (B) The formula for the circumference of a circle is C = 2rπ. Let f be the radius of the front tire and b equal the radius of the back tire. Then the circumference of the front tire would be 2fπ and the circumference of the back tire would be 2bπ.

Since it takes the front tire 3 revolutions for every 1 revolution of the back tire, the circumference of the back tire must be three times the circumference of the front tire:

2bπ = 3(2fπ)
b = 3f

Thus, the radius of the back tire (b) is 3 times larger than the radius of the front tire (f).

78. (H) Lily has a coupon for 30% off, which means she will pay 70% of the regular price (100% − 30% = 70%). Lily will pay $2.90 • 70% = $2.03 for this bag of candy.

To calculate the price per ounce, divide the final price Lily pays by the number of ounces in the bag:

$2.03 ÷ 12 = $0.16917, which rounds to $0.17

79. (B) $|(^-6) - (^-5) + 4| - |3 - 11|$

$|3| - |^-8|$

$3 - 8$

$^-5$

80. (**G**) Create a proportion to calculate the total number of gallons of paint used:

$$\frac{\text{Gallons of blue}}{\text{total gallons}} = \frac{8}{8+3} = \frac{6}{x}$$

$$8x = 6(11)$$

$$x = 8\frac{1}{4} \text{ gallons}$$

81. (**D**) Of the fractions listed in the options $\left(\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \text{ and } \frac{1}{6}\right)$, $\frac{1}{3}$ and $\frac{1}{6}$ are the only fractions that can be written as repeating decimals. Adding a non-repeating decimal to a repeating decimal will result in a repeating decimal. Thus, the correct answer must contain two non-repeating decimals, which is option D: $\frac{1}{4} + \frac{1}{5}$

82. (**J**) 1 L = 1,000 mL
1 L = (1,000)(1,000) cu mm = 1,000,000 cu mm

83. (**D**) There were 11 marbles in the box. After 5 were removed, the total number of marbles in the box is now 6. The probability of drawing a green marble is now $\frac{1}{2}$, which is equivalent to $\frac{3}{6}$. Thus, 3 green marbles remain in the box.

Originally, there were 4 green marbles in the box, so only 1 green marble was removed. Since a total of 5 marbles were removed from the box, that means 4 of those marbles were red.

84. (**F**) To find the speed of the plane, divide the miles travelled by the number of hours:

First leg:
900 miles ÷ 2 hours = 450 mph

Second leg:
1,400 miles ÷ $2\frac{1}{2}$ hours = 560 mph

The question asks how much greater the speed was in the second leg than in the first, so subtract: 560 – 450 = 110 mph

85. (**B**) Let x be the number of gallons of water the tank holds when completely full. Use the information in the first sentence to set up the equation:

$$\frac{4}{5}x = \frac{1}{3}x + 21$$

$$\frac{12}{15}x - \frac{5}{15}x = 21$$

$$7x = 15 \cdot 21$$

$$x = 45 \text{ gallons}$$

86. (**J**) First, set up an equation to express Tom's age (T) and Jordan's age (J) today:

$$T = \frac{1}{4}J$$

Two years from now, Tom's age will be T + 2 and Jordan's age will be J + 2. Use that information and the information from the second sentence in the question to set up an equation about the relationship between Tom's age and Jordan's age in two years:

$$T + 2 = \frac{1}{3}(J + 2)$$

Simplify the above equation for T:

$$T = \frac{1}{3}(J + 2) - 2$$

Now, set the two equations equal to each other and solve for J:

$$\frac{1}{4}J = \frac{1}{3}(J + 2) - 2$$

$$\frac{1}{4}J = \frac{1}{3}J + \frac{2}{3} - 2$$

$$\frac{1}{4}J = \frac{1}{3}J - \frac{4}{3}$$

Multiply both sides of the equation by the common denominator (12):

$$12(\frac{1}{4}J) = 12(\frac{1}{3}J - \frac{4}{3})$$

$$3J = 4J - 16$$

$$^-J = {}^-16$$

$$J = 16$$

87. (C) The question asks for the number of different ways to create $0.75 using at least one of each coin. One of each coin (one quarter, one dime, one nickel) is $0.25 + $0.10 + $0.05 = $0.40. Thus, the first $0.40 of any solution is already determined. Subtract $0.40 from $0.75 ($0.75 − $0.40 = $0.35), so the question becomes "how many different ways can you make $0.35 using nickels, dimes, and quarters?" There are 6 ways to create $0.35 using nickels, dimes and quarters:

7 nickels
5 nickels + 1 dime
3 nickels + 2 dimes
1 nickel + 3 dimes
1 quarter + 1 dime
1 quarter + 2 nickels

88. (G) Because the volume of the tent is calculated using the area of the cross-section × depth (d), you can also use this formula to find d.

The area of the cross-section is the sum of the areas of the two triangles and the rectangle.

The two triangles have the same base length (2 ft) and height (6 ft), so the area of one of the triangles is:

A = $\frac{1}{2}$ × 2 × 6 = 6 sq ft

The area of the center rectangle is:
A = 4 × 6 = 24 sq ft

So the total area of the cross-section is:
A = 6 + 6 + 24 = 36 sq ft

Use that to calculate the depth of the tent:
V = 36d
216 = 36d
6 = d

89. (C) Ryan has 130 pages left to read (150 − 20). He read 20 pages in 30 minutes, which means he read at a rate of 40 pages per 1 hour. To find out how much longer it will take him to finish the assignment, divide the total pages remaining by the number of pages he is able to read per hour:

$\frac{130}{40} = 3\frac{1}{4}$ hours

90. (K) The integers that are included in Set R but not in Set T are 10 through 81. (Note that 82 **is** included in Set T.) To calculate the number of integers between 10 and 81, inclusive, subtract the two endpoints and add 1. (One must be added because the endpoints are both counted in the total)

81 − 10 + 1 = 72

91. (B) First, find the amount by which Joe is currently exceeding the speed limit of 55 miles per hour:

$65\frac{1}{2} - 55 = 10\frac{1}{2}$ mph

He increased his speed at a rate of $1\frac{1}{2}$ mph each half-minute, or 3 mph every minute. To determine how many minutes he has been exceeding the speed limit, divide:

$10\frac{1}{2} \div 3 = \frac{7}{2} = 3\frac{1}{2}$ minutes

92. (F) The question asks for the number of positive two-digit numbers evenly divisible by 4. The smallest such number is 12 (4 × 3), and the largest is 96 (4 × 24). Thus, the two-digit numbers evenly divisible by 4 are 4 × 3, 4 × 4, 4 × 5, and so on up to 4 × 24.

To find how many such numbers there are, subtract the lowest value from the greatest value: 24 − 3 = 21.

However, since each endpoint is included (4 × 3 and 4 × 24), add 1 to that value to get the exact count of the numbers: 21 + 1 = 22

93. (A) After Ang gives Julia $\frac{1}{3}$ of his money (which can be expressed as $\frac{1}{3}x$ or $\frac{x}{3}$), Julia has $y + \frac{x}{3}$ in her account. If she spends $\frac{1}{4}$ of that amount, the expression is now:

$\frac{1}{4}\left(y + \frac{x}{3}\right) = \frac{y}{4} + \frac{x}{12}$

94. (**F**) Each chair costs Arnold $150 to make, and he sells the chair for $275. His profit is found by subtracting the cost from the price:

$275 − $150 = $125 per chair

If Arnold makes and sells 25 chairs in a week, his initial profit is 25 • $125 = $3,125. However, Arnold has additional fixed expenses of $1,250 per week, so this cost must also be subtracted. Thus, his final profit is:

$3,125 − $1,250 = $1,875

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95. (**B**) To find the mean salary for all 12 employees, find the sum for each group. Thus, 4 people earned a total of $272,000 and 8 people earned a total of $376,000. Use the mean formula:

$$\frac{272,000 + 376,000}{4 + 8}$$

$$= \frac{648,000}{12}$$

$$= \$54,000$$

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96. (**H**) To answer this question, assign several positive and negative values to x and determine what the value of the expression will be:

x	$1 - x^2$
⁻2	⁻3
⁻1	0
0	1
1	0
2	⁻3

The pattern shows the largest possible value of the expression is 1, which occurs when $x = 0$.

97. (**D**) The volume of the container is $10 \times 10 \times 10 = 1,000$ cubic feet. Since it is already half full at 9:00 a.m., it will begin to overflow after 500 cubic feet of water is added to it.

7 cubic feet of water are being added per minute, but 2 cubic feet of water leak out per minute. That means $7 - 2 = 5$ cubic feet of water are being added to the tank each minute.

500 cubic feet ÷ 5 cubic feet per minute = 100 minutes

100 minutes is equal to 1 hour 40 minutes. 1 hour 40 minutes after 9:00 a.m. is 10:40 a.m.

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98. (**K**) The question says that an equal number (x) of each type of space was purchased. To find the number of each type of space that was purchased, multiply the price per type by x and set it equal to the total amount spent:

$200x + 350x + 600x = 11,500$
$1,150x = 11,500$
$x = 10$

Thus, the store purchased 10 units of each type of space. To find the total **amount** of page space purchased, multiply each type of space by 10 and add:

$(10 \cdot \frac{1}{4}$ page$) + (10 \cdot \frac{1}{2}$ page$) + (10 \cdot 1$ page$)$

$= 2\frac{1}{2} + 5 + 10 = 17\frac{1}{2}$ pages

99. (E) Since the floor measurement is in feet and the tile measurement is in inches, change inches into feet:

8 in. $= \frac{8}{12} = \frac{2}{3}$ ft

The floor is 12 ft wide. To find the number of tiles needed along the width of the floor, divide the width by the size of a tile:

12 ft $\div \frac{2}{3} = 12 \cdot \frac{3}{2} = 18$ tiles

The floor is 16 ft long. Find the number of tiles needed along the length of the floor:

16 ft $\div \frac{2}{3} = 24$ tiles

To find the total number of tiles needed, multiply the number needed along the width by the number needed along the length:

18 • 24 = 432 tiles

To find the total cost, multiply the total tiles by the cost per tile:

432 tiles • $8 = $3,456

100. (K) First, multiply each term by 2 to eliminate the fraction:

$^{-}4(2) < x < 2(2)$
$^{-}8 < x < 4$

Therefore, x must be between $^{-}8$ and 4, which is Option K.

Answer Key for Sample Form A

Paragraph 1
T U S R Q

Paragraph 2
S R U Q T

Paragraph 3
U T R S Q

Paragraph 4
U S T R Q

Paragraph 5
Q S R U T

11. D	21. E	31. A	41. C	51. D	61. A	71. B	81. D	91. B
12. H	22. K	32. G	42. F	52. G	62. H	72. K	82. J	92. F
13. B	23. A	33. B	43. B	53. D	63. B	73. A	83. D	93. A
14. K	24. G	34. F	44. H	54. G	64. G	74. J	84. F	94. F
15. D	25. E	35. C	45. D	55. C	65. B	75. D	85. B	95. B
16. K	26. H	36. J	46. G	56. K	66. J	76. K	86. J	96. H
17. A	27. D	37. B	47. A	57. C	67. C	77. B	87. C	97. D
18. F	28. K	38. K	48. K	58. F	68. H	78. H	88. G	98. K
19. C	29. D	39. E	49. C	59. C	69. B	79. B	89. C	99. E
20. K	30. J	40. G	50. H	60. J	70. H	80. G	90. K	100. K