

41. (C) Who or what was lying on the sidewalk? Choices A and D make it seem as though Jon was on the sidewalk. Who or what was silver? Choice B makes it seem as though the woman was silver. Only choice C puts all modifiers near the words they modify, thus clarifying the meaning.
42. (A) The committee is working as a unit to produce a single report, so *its*, meaning “belonging to it,” is an appropriate pronoun. If the committee worked as separate individuals to prepare a variety of reports, the pronoun might be *their* (choice B).
43. (B) Two independent clauses separated by *and* require a comma before the conjunction.
44. (D) The word means “not ceasing,” which may help with its spelling.
45. (D) The coats belong to the patients. The coats are theirs.
46. (C) The pronoun is an indirect object, so it must be an object pronoun—*whomever*.
47. (A) What is now on blocks? The car with the broken axle is now on blocks. Choice A makes the description and action clearest.
48. (B) Of all the choices, only choice B, if moved to the beginning of the sentence, would make the action clear: “From my car window, I noticed a number of workers who were repairing the road alongside the mall.”
49. (B) The word *still* is a clue here—even though the patients are resting comfortably, bed checks must be done. *However* best expresses this “in spite of X, Y” connection between ideas.
50. (B) Think about what happened to make Jessica mad. Her flight was cancelled. Then she drove home. Then she typed the letter. Choice B puts these actions in logical order.

Basic Math Skills

1. (A) Express the mixed numbers as improper fractions:
 $1\frac{3}{5} \times \frac{9}{8}$. Then multiply numerators and denominators for a product of $\frac{117}{40}$. Finally, express this as a mixed number in lowest terms: $2\frac{37}{40}$.
2. (C) First find the difference in price: $75¢ - 25¢ = 50¢$. Then put the difference over the original price to find the percent change:
 $\frac{50¢}{25¢} = 2$, or 200%.
3. (D) Set this up as a proportion: $2.5/1 = x/6$. You may cross-multiply to solve: $2.5 \times 6 = x$. $x = 15$. Alternatively, just think: 1 cake takes 2.5 cups, so 6 take 2.5×6 cups.
4. (C) Takuo started with \$5 and spent $\$1.35 + \1.75 in all. Subtract that total, \$3.10, from \$5 to get the amount left—\$1.90.

5. (D) Percents are fractions of 100, so you must multiply numerator and denominator by 20 to find the percent.
6. (C) If 1 mile equals 1.6 kilometers, 12 miles equals 1.6×12 , or 19.2 kilometers.
7. (1165) Reading from left to right, M = 1,000, C = 100, L = 50, and XV = 15, making the date 1165.
8. (B) Use common sense—0.25 is the same as $\frac{1}{4}$, so you are being asked to find $\frac{1}{4}$ of 0.4, which would be 0.1.
9. (C) Multiplying two numbers with two digits to the right of the decimal point should result in a product with four digits to the right of the decimal point. However, in this case, the final digit, 0, is dropped off.
10. (40) There were $5 + 8 + 2 + 5$ deliveries in all, or 20 patients. 8 out of $20 = 40$ out of 100, so the percentage of people with broken bones was 40%.
11. (A) The Mayan system is based on 20. The Babylonian system (choice B) is based on 60.
12. (24) The least common denominator is the least number into which each denominator divides. 8 does not divide into 12, but it does divide into 24.
13. (A) This is the correct form for times before noon.
14. (B) The actual population must be an equivalent ratio to 1:12. In the case of choice B, $(1 \times 85):(12 \times 85) = 85:1,020$.
15. (C) Express the mixed numbers as improper fractions, and multiply the first by the reciprocal of the second. $4\frac{3}{8} = \frac{37}{8}$. $1\frac{1}{2} = \frac{3}{2}$. $\frac{37}{8} \times \frac{2}{3} = \frac{74}{24}$. Now reduce to lowest terms and express the answer as a mixed number. $\frac{74}{24} = \frac{37}{12} = 3\frac{1}{12}$.
16. (C) Think: Bai Lin uses 10% + 30% of some unknown total, x , on savings and living expenses. She uses 40%, so \$1,545 must represent 60% of that total. Now you have enough information to set up an equation. 60% of $x = \$1,545$. $0.60x = \$1,545$. $\$1,545 \div 0.60 = x$, so $x = \$2,575$.
17. (2,639) This is one of those times when, even though the dollar amounts are so close to whole numbers, you should not round before you calculate. $500 \times \$5 = \$2,500$, and $\$24 \times 6 = \144 . Adding those totals gives you \$2,644. However, doing the actual math: $500 \times \$4.99 = \$2,495$, and $\$23.99 \times 6 = \143.94 . Adding those totals gives you \$2,638.94, which is \$2,639 to the nearest dollar. Pennies add up quickly when you are talking about 500 of them!
18. (B) To find the percent \$2.43 is of \$13.50, simply divide: $\$2.43 \div \13.50 . The answer is 0.18, or 18%.
19. (A) One milliliter = 0.001 liters, so 500 milliliters = 0.5 liters.

20. (C) You can find the answer by setting up a proportion. First convert the feet to inches: 4 feet = 48 inches. Then solve the proportion: $\frac{1}{10} = \frac{x}{48}$, so $x = 4.8$ inches. You do not even need to complete the proportion for 5 feet, or 60 inches.
21. (A) Estimation should eliminate choices C and D, and looking at place value should show you that $43.210 - 1.234$ will give you an answer whose last digit is 6, not 7. The correct answer is A.
22. (56) Solve this as you would any other problem of this sort. Think: $0.15x = 8.4$. $8.4 \div 0.15 = 56$. Check by thinking: Does it make sense that 15% of 56 would be around 8?
23. (D) Express the mixed number as an improper fraction: $1\frac{7}{3}$. Then find the lowest common denominator and restate the two fractions: $1\frac{19}{21} + 1\frac{8}{21}$. Solve, and express as a mixed number in lowest terms: $2\frac{27}{21} = 6\frac{11}{21}$.
24. (C) First determine how much Joanie spent in all: $\$1.25 + \$1.35 + \$2 = \4.60 . Subtract to find out how much change she was owed: $\$5.00 - \$4.60 = \$0.40$. There are many combinations of coins that add up to \$0.40; the smallest combination is 1 quarter + 1 dime + 1 nickel, for 3 coins in all.
25. (B) Choice A would translate as 0920. The correct answer is choice B.
26. (D) Start by determining how many dozens are in 180: $180 \div 12 = 15$. The bakery must add 1 cupcake per dozen, or 15 in all.
27. (A) You may not need pencil and paper for this one. 110% is slightly more than 100%. Solve by thinking: $1.10 \times 40 = 44$.
28. (B) Think: $92 \div 11$ is around 8. $8 \times 11 = 88$. $92 - 88 = 4$, so the remainder is 4.
29. (D) If you know that there are 52 weeks in a year, this should be fairly simple. He runs 4 + 3 miles a week, so he runs 7×52 miles a year, or 364 miles.
30. (A) Change the percent to a decimal and multiply to solve: $0.15 \times 95 = 14.25$.
31. (C) You may not need to calculate this if you use common sense, but if you do need to calculate, simply divide 12 by 30. $12 \div 30 = 0.4$.
32. (A) Since 2.2 pounds = 1 kilogram, 11 pounds = $1\frac{1}{2}$ kilograms, or 5 kilograms.
33. (C) Think: $6 \div 7 = 0.857142 \dots$
34. (B) If three cost \$9.99, the unit price is \$3.33. Dividing that into \$50 gives you 15 with a bit left over. You might also consider that \$9.99 is close to \$10, and $\$50 = 5 \times \10 , so he could buy approximately 5 times the three comic books, or 15 in all.

35. (A) 1,000 = M. 700 = DCC. 70 = LXX. 6 = VI.
36. (C) Call Europe x , Africa y , and Asia z . $x = 27$, so $y = 27 - 15$, or 12. Therefore, $z = 12 + 18$, or 30.
37. (D) Use common sense. The first number is a bit more than 5. The second is a bit more than 2. Multiplying them must get you a product that is greater than 10.
38. (C) Try estimating. The numbers being multiplied are a little less than 1 and a little more than 2, so the answer will be around 2. You can find the answer without working out the computation.
39. (A) The formula is $F = (\%)C + 32$. $(\%)15 + 32 = 59$.
40. (B) In real life, the deck is 12×50 cm by 10×50 cm, or 600 cm by 500 cm. Since there are 100 centimeters in a meter, you should be able to tell right away that the answer will be 6 m by 5 m, or choice B.
41. (C) Rebecca's fence must have 144 pickets. She can paint 12 an hour, so she can do 144 in $144 \div 12$, or 12 hours.
42. (C) Since you are essentially dividing 12 into 14, the answer must be close to 1. Only choice C makes sense.
43. (D) $\frac{7}{4} = \frac{21}{12}$. $\frac{21}{12} - \frac{1}{12} = \frac{20}{12}$, which is the same as $1\frac{8}{12}$, or $1\frac{2}{3}$.
44. (C) If James paid \$1.44 for 6 lemons, each lemon cost $\frac{\$1.44}{6}$, or \$0.24. Divide that into \$4.80 to find how many Casey bought: $\frac{\$4.80}{\$0.24} = 20$.
45. (D) To add and subtract fractions, first find the lowest common denominator and convert each fraction to an equivalent fraction with that denominator. Here, the lowest common denominator is 48. $2\frac{44}{48} - \frac{9}{48} = 2\frac{35}{48}$. That fraction cannot be reduced further, so the answer is D.
46. (A) $85\% = \frac{85}{100}$. $\frac{85}{100} \div \frac{5}{5} = \frac{17}{20}$.
47. (200) Since 88 is 88% of 100, twice 88, or 176, must be 88% of 200.
48. (C) Take 2% of \$1,050. $0.02 \times \$1,050 = \21 . Now add that to \$1,050: $\$1,050 + \$21 = \$1,071$.
49. (120) If 60% showed improvement, 40% did not. $0.40 \times 300 = 120$.
50. (32) There are 16 cups in a gallon and 32 cups in 2 gallons.

Biology

- (B) Vacuoles are saclike structures in eukaryotic cells that contain water and solutions of salt and food materials.
- (C) Fermentation is an incomplete form of cellular respiration. When it occurs in yeast, pyruvic acid is converted into ethanol and carbon dioxide. When it occurs in muscle cells that are not receiving enough oxygen, pyruvic acid is converted into lactic acid.