

# Fifth Grade Individual Test– Answer Keys

Note that parts of answers in parenthesis are **NOT** necessary for a correct answer. They are units, but if the wrong units are listed, then that makes the answer incorrect.

## Individual Test #1

- #1: **D. 4 1/6** Choice B would be correct except it is not a mixed number in simplest form. 50/12 simplifies to 4 1/6.
- #2: **A. a square** A square has 4 lines of symmetry, an equilateral triangle has 3, a scalene triangle has zero, and a rectangle that is not a square has 2.
- #3: **B. \$13.25** He has enough money to buy 6 @ \$7.35 apiece and not quite enough for 7; so he buys 5 (one fewer than he can buy);  $5 \times 7.35 = 36.75$ ;  $50 - 36.75 = \$13.25$ .
- #4: **D. Tuesday at 1:04 a.m.** 167 minutes = 2 hours and 47 minutes; 2 hours ahead is 12:17 a.m. the next day (Tuesday) plus 47 extra minutes = 1:04 a.m.
- #5: **D. 4 million** 2,000 (tons) x 2,000(pounds per each ton) = 4,000,000 pounds or 4 million.
- #6: **C. an obtuse triangle cannot be a scalene triangle** Sure they can.
- #7: **B. 17** Choice A is a prime factor but not the greatest; choice C is prime but not a factor; choice D is a factor but it is not prime.
- #8: **C. His interior angles weren't right** The other choices are equally true of all rectangles and parallelograms; while a rectangle could also be a special kind of parallelogram, a parallelogram with interior angles that are not 90 degrees cannot be a rectangle.
- #9: **D.  $T = (V \times V)/2$**  To find the value of T, multiply V by V then divide by 2; The other formulas do not match the data.
- #10: **B. 3/10** 20 total zombies will be attacking, 6 of which will be wearing a cone on their head; 6/20 simplifies to 3/10.
- #11: **D. 23** For order of operations, first multiply within parenthesis, then add and subtract; without parenthesis, multiply first then add and subtract;  $2 + (5 - 1 \times 2) + 6 \times 3 = 2 + (5 - 2) + 18 = 2 + 3 + 18 = 23$ .
- #12: **C. 2** The range of the deer data =  $14 - 3$  (high # minus low#) = 11; the range of the antelope data =  $21 - 12 = 9$ ; the difference =  $11 - 9 = 2$ .
- #13: **B. (21,35)** For every change of x-axis of 3, there is a change of 5 in the y-axis; only choice B represents this line showing  $21/3 = 7$ ,  $7 \times 5$  (change of y) = 35.
- #14: **B. 6** The square of 3, 4, 5, 6, 7, and 8 are 9, 16, 25, 36, 49, and 64 which all fit the criteria for the answer; there are six numbers; the square of 2 is 4 which is not greater than 4 so it is not counted.
- #15: **A. 1/20** The bread was cut into 10 equal pieces (2 pieces for each of the 5 pigeons); each piece is 1/10 of the original; half of one piece is 1/2 of 1/10 = 1/20 of the original slice of bread.

## Individual Test #2

- #1: **D. 70** 7 is the greatest common factor, 490 is a common multiple but it is not the least common multiple; 14 and 35 both divide without a remainder into 70.
- #2: **B. 1.769**  $3.7 + 0.07 = 3.77$ ;  $3.770 - 2.001 = 1.769$ .
- #3: **D. (Q x K)/2** Area of a triangle = base x height/2; Q is the height and K is the base of the shaded triangle.
- #4: **B. 22,000 m.p.h.** The best approximation would be a bit more than  $30 \times 700$ ;  $30 \times 700 = 21,000$ ; choice B is clearly the closest to that number.  $31 \times 697 = 21,607$ ; the actual rate is 22,059.
- #5: **C. unlikely** There is only a  $\frac{2}{12}$  (1 in 6) chance that a cat that crosses her path will be black;  $\frac{1}{6} + \frac{1}{6}$  is still on average  $\frac{1}{3}$  chance which is less than 50%, so while possible, it is unlikely.
- #6: **C. 487**  $8,291/17$  would equal 487 with a remainder of 12, with the remainder ignored according to what the problem asks.
- #7: **A. 13,464**  $3 \text{ CCF} \times 6$  (number of months) = 18 total CCF;  $748 \times 18 = 13,464$ .
- #8: **B. B**  $\frac{6}{7} + \frac{1}{3} = \frac{18}{21} + \frac{7}{21} = \frac{25}{21} = 1 \frac{4}{21}$  which is just under  $1 \frac{4}{20}$  or  $1 \frac{1}{5}$  or 1.2; each hash mark on the number line represents  $\frac{1}{4}$  or 0.25, so point B is very close to that number.
- #9: **A. 25** Parallel sides are of equal length so the adjacent sides must be evenly divisible by 2 after subtracting 12 for the known lengths. Choice A would be sides of 6 & 5, choice C would be sides of 6 & 9, choice D would be sides of 6 & 18; only choice B could not work with sides of 6 & 6.5 (not a whole number).
- #10: **B. 2 hours < 160 minutes < 10,000 seconds** In choice A 300 minutes is not greater than 6 hours; in choice C 1 minute is not greater than 1 hour, and in choice D the whole thing is wrong.
- #11: **C. Bigfoot was seen about 16 times in April** Choice A is incorrect since we have no information about his backyard, choice B is incorrect since February had the fewest sightings, and choice D is incorrect as Bigfoot was sighted 35 times in August, not 40.
- #12: **D. it cannot be determined** Without knowing what A **and** B are, you cannot assign a numerical value to Q in this equation.
- #13: **C. 9** Choice A is the range, B is the mode, D is the median, and choice C is the mean;  $15 + 7 + 13 + 8 + 6 + 13 + 1 = 63$ ;  $63/7$ (number of items in the set) = 9.
- #14: **D. 241** The pattern is the previous number is multiplied by 3 and then 4 is added ( $3x + 4$ ) where  $x =$  the previous number;  $(3 \times 79) + 4 = 237 + 4 = 241$ ; another pattern is the number increasing by 6, then by 18, then by 54, a threefold increase each time;  $3 \times 54 + 79 = 162 + 79 = 241$ .
- #15: **A. 432** 180 miles in 25 minutes = 36 miles every 5 minutes; there are 12 5 minute intervals in 1 hour, so  $36 \times 12 = 432$ .