1. If the asteroid’s speed is 25 km per second, then the distance travelled is 25 \* 30 = **750 km. A**
2. By using the distance formula: =  **D**
3. In the recipe, there is 1.5 times the amount of flour than sugar. This means, in Keesha’s batch there is 10 x 1.5 cups of flour needed to keep the same ratio. 15-1.5= **13.5 cups. B**
4. Choice B is the only sequence with multiples. Multiples of **5** to be exact. **B**
5. The tenth prime number is 29. Phoebe and Tim counted 28 bats. The positive difference is 29-28= **1. A**
6. The ball at its highest point would be at its vertex. The vertex formula is . Therefore, x = 2 and plugging in this into the equation equals **14. D**
7. The ratio of the geometric sequence is 1/4/ Therefore the fourth term is **1/16. D**
8. The answer to the math problem is 8127. This subtracted from the wrong answer equals **35**. D
9. By counting how many colors Liz changes plus between her patterns gives that it takes **130 seconds**. B
10. It takes Carlos 10 minutes to find 20 worms while Ralphie takes 20 minutes to find 20 worms. . Reasoning : Change each rate to a unit of one. **C**
11. Bus A’s speed is 100 mph and Bus B’s speed is 150 mph. The absolute difference between the 2 buses is **50**. **C**
12. By following the problem, it can be determined that Carlos is **5th** in line. We know Ralphie is 1st in line and Arnold is last in line. Anne is directly behind Tim, meaning they are together in line and in-between Wanda and Ralphie 🡪 R, T, DA, W, C, A. **A**
13. **49.** This is a sequence of square numbers. **A**
14. Dorothy Ann follows the Fibonacci sequence. Therefore, she will read **33 books. D**
15. The product of the roots is c/a, therefore the products of the roots is **7/4. E**
16. Let x = the number of times the class goes on a trip and y = the number of time Arnold says “I knew I should have stayed home today.” The equation is y = kx 🡪

12 = 10k 🡪 6/5 = k 🡪 y = (6/5) • 15 🡪 y = **18** **A**

1. Let “All about Volcanoes” equal x, “Incredible Insects” equal y, and “Optical Illusions” equal z. Using these variables, we get the following equations:

x+y=10

x+z=8

z+y=9

If add all of these equations and divide by 2, then the answer is **13.5. C**

1. The sum is  **C**
2. To determine how many distinct outfits Ms. Frizzle can generate from her clothes, multiply 5 • 10 • 4 = **200 D**
3. To calculate the total distance traveled, let the starting point be the origin and follow the directions given in the problem. The distance formula can be used to find the distance between the origin and (5,12) which is 13**.** The total distance Liz walked was 23 meters. 23 – 13 = **10. B**
4. Multiply (x - 2)(x + 2)(x – 3) 🡪 (x2 – 4)(x – 3) 🡪 **x3 – 3x2 – 4x + 12 A**
5. Let x=Sqrt2+sqrt2+sqrt 2+sqrt

Using substitution, we get the equation x=. Square both sides to get x2 = 2 + x

* x2 – x – 2 = 0 🡪 (x – 2)(x + 1) = 0 🡪 x = 2, -1. x cannot be negative since it is a square root, so the answer is **2. B**

1. c(5) = . f(4) = 4(4) + 9 = 16 + 9 = **25 A**
2. (x + 7)(x + 4) = 0 🡪 x = -7, -4. The largest root is **-4 E**
3. The eighth prime number is 19, the 5th even integer is 10, and the square root of 289 is 17. Therefore the answer is 19+10-17, which is **12**. **B**
4. For  to equal one, the exponent must equal zero. Those solutions are the roots of 2x2-5x-2. The sum of the roots is –b/a, or **5/2** in this case. **D**
5. The real solutions for this equation are . Since there are 2 real roots to the equation, the answer is **2. B**
6. Using the vertical line test, I is not a function, II is a function, and III is a parabola that opens up, therefore it is a function. **B**
7. . 27 + 14 = **41 C**
8. Slope =  **B**