**Choose the letter of the correct answer. In all cases, E) NOTA means “none of these answers”.**

1.Dorothy Anne had a nightmare about an asteroid crashing into Walkersville Elementary. According to her fictional calculations, she believes the asteroid is traveling at a speed of 25 km/second. If it took the asteroid 30 seconds to reach Walkersville Elementary, how far was it from Earth?

**A) 750 km B) 800 km C) 810 km D) 830 km E) NOTA**

2. Oh no! The class lost Ms. Frizzle as they were about to leave Venus. They decided to take the bus to Mars in hopes of finding their teacher. If they are located at (5, 3) and want to reach Mars, which is located at (10, 15), what is the shortest distance the bus will travel to reach Mars?

**A) 8 B)10 C)11 D)13 E) NOTA**

3. Keesha decided to make a huge cake for Ms. Frizzle’s birthday, but she wrote down the recipe incorrectly from the internet. The recipe online calls for one cup of sugar and 1.5 cups of flour. However, she accidentally put 10 cups of sugar and 1.5 cups of flour. If she needs to reach the same ratio of flour to sugar as on the internet recipe, how many more cups of flour must she add to maintain the same ratio?

**A) 6 B) 13.5 C) 15 D) 16 E) NOTA**

4. Arnold and Tim begged Ms. Frizzle for a field trip to the Cretaceous period to see some of their favorite dinosaurs. Ms. Frizzle agreed for them to go if they correctly answered this question:

Which sequence of numbers below is a list of consecutive multiples?

**A) 2, 4, 8, 16, 32, … B) 5, 10, 15, 20, 25, … C) 1, 2, 4, 9, 16, …**

**D) 1, 5, 6, 11, 17, 28, … E) NOTA**

5. Ms. Frizzle decides to take the class on a nighttime field trip to study her favorite nocturnal animals, bats. As they enter a cave, Phoebe counts 15 bats and Tim counts 13 bats. If Ms. Frizzle says the actual number of bats is equal to the tenth prime number, what is the positive difference between the actual number of bats and the total number of bats Tim and Phoebe counted?

**A) 1 B) 13 C) 15 D) 28 E) NOTA**

6. Arnold throws a baseball in the shape of a parabola with equation (where “y” is the height of the ball in feet after x seconds). What is the height of the ball above the ground, in feet, at its highest point?

**A) 9 B) 10 C) 13 D) 14 E) NOTA**

7. Ms. Frizzle’s closet is full of wonderful secrets! Unfortunately, Ms. Frizzle forgot the passcode to her closet. She knows that her passcode is a geometric sequence made up of 4 terms. If the first term is 4 and the second term is equal to 4 times the third term, what is the fourth term?

**A)  B)  C)  D)  E) NOTA**

8. Phoebe and Tim are working on the math problem 301 27 together and both get the same wrong answer: 8092. What is the absolute value of the difference between the correct answer and the incorrect answer that Phoebe and Tim got?

**A) -35 B) -27 C) 27 D) 35 E) NOTA**

9. Liz the iguana can change and only change to the seven colors of the rainbow (red, orange, yellow, green, blue, indigo, and violet). If it takes Liz 10 seconds to change between one color, how long will it take to change from blue to red to green to violet to purple to orange to yellow two times completely?

**A) 120 B) 130 C) 140 D) 150 E) NOTA**

10. Ms. Frizzle's class is learning about decomposition and is holding a contest to see who can find the most worms in the garden. If Carlos can find 10 worms in 5 minutes and Ralphie can find 10 worms in 10 minutes, how many minutes will it take them to find 20 worms if they work together?

**A) 3 B) 5 C) D) E) NOTA**

11. The class decides to take a trip to Walter Lake to find the monster that reporter Gerri Poveri stated in her story. Because a lot of people were going on the trip, two buses were used to get to the lake. Both buses left at 9:00 AM and travelled at a constant speed, however, it took bus A 3 hours to get to the lake and 2 hours for bus B to get to the lake. If the distance from the school to the lake is 300 miles, what is the positive difference between the speeds of both buses?

**A) 25 B) 45 C) 50 D) 100 E) NOTA**

12) Arnold, Carlos, Dorothy Ann, Ralphie, Tim, and Wanda are all waiting in line to board the bus for their next field trip. Because he’s not excited for the trip, Arnold is last in line, while Dorothy Ann is directly behind Tim, though Tim is not behind Wanda. There are two people in between Wanda and Ralphie. If Ralphie is first in line, what place is Carlos in line?

**A) 5th  B) 4th C) 3rd  D) 2nd E) NOTA**

13. Keesha and Ralphie are trying to figure out the next term in the following sequence. What is the next term?

1, 4, 9, 16, 25, 36, \_\_

**A) 49 B) 64 C) 81 D) 100 E) NOTA**

14. On the first day of the month, Dorothy Ann reads 1 book. On the second day she reads 1 book, on the third day, she reads 2 books, on the fourth day she reads 3 books, on the fifth day she reads 5 books, and so on. What is the total number of books she has read after 7 days?

**A) 13 B) 26 C) 31 D) 33 E) NOTA**

15. Ms. Frizzle decides to take a class trip to visit a volcano, however, Arnold does not want to go. Ms. Frizzle tells him that he can stay back if he answers the following question correctly:

What is the product of the roots of ?

**A) B) 2 C) D) 7 E) NOTA**

16. The number of times the class goes on a field trip is directly proportional to the number of times Arnold says, “I knew I should’ve stayed home today” If the class took 10 field trips that month and heard Arnold complain 12 times, how many times did Arnold complain when the class took 15 field trips?

**A) 18 B) 15 C) 12 D) 10 E) NOTA**

17. Carlos and Keesha are weighing books on the class scale. “All About Volcanoes” and “Incredible Insects” together weigh 10 oz. “Optical Illusions” and “All About Volcanoes” together weigh 8 oz. “Incredible Insects” and “Optical Illusions” together weigh 9 oz. What is the sum of the weight of all 3 books together in ounces?

**A) 9 B) 10 C) 13.5 D) 27 E) NOTA**

18. What is the sum of the roots of ?

**A) 7 B)  C)  D) -14 E) NOTA**

19. Ms. Frizzle isn’t sure what to wear to class today. She owns 5 different polka dot dresses, 10 pairs of shoes, and 4 sweaters. How many distinct outfits consisting of one dress, one pair of shoes, and one sweater can she generate from her clothes?

**A) 19 B) 40 C) 50 D) 200 E) NOTA**

20. Liz walks 7 meters due north, 13 meters due east, 2 meters due south, and 1 meter due west. What is the positive difference between the total distance that she has walked and the shortest distance between her starting and ending point?

**A) 0 B) 10 C) 12 D)13 E) NOTA**

21. For Phoebe to go to the Moon with her classmates, she must answer the following question correctly:

What is the cubic equation if the roots are 2, 3, and -2?

**A) B)**

**C) D) E) NOTA**

22. While taking one of Ms. Frizzle’s math test, Arnold stumbles upon a question that he thinks is impossible to answer. Prove Arnold wrong by finding the value of x for the equation below.

x =

**A) 1 B) 2 C) 3 D) 4 E) NOTA**

23. If f(x) = 4x+9 and c(x) = then what is f(c(5))?

**A) 25 B) 9 C) 4 D) not possible E) NOTA**

24. Ms. Frizzle asks the class where they would like to go on the next field trip, but Arnold and Liz seem to be arguing about their next destination. To solve this issue, Ms. Frizzle asks them a math question to determine who will decide the location of the next field trip. What is the largest of the roots of 11x+28?

**A) -11 B) 0 C) 11 D) 28 E) NOTA**

25. Ms. Frizzle’s favorite number is the eighth prime number, plus the fifth even positive integer, minus the square root of 289. What is Ms. Frizzle’s favorite number?

**A) 10 B) 12 C) 14 D) 16 E) NOTA**

26) . What is the sum of all distinct values of x that make true?

**A) B) -1 C) 0 D) E) NOTA**

27 ) Phoebe is helping Arnold with his homework. The number of problems they have left is equal to the number of real roots in the equation - 625. How many problems does Arnold have left on his homework?

**A) 1 B) 2 C) 3 D) 4 E) NOTA**

28) How many of these are not functions?

* 1. **x = 5**
  2. **x + y = 12**
  3. **y = 2x2 – x + 3**

**A) 0 B) 1 C) 2 D) 3**

29) Keesha has a + b earrings that she wears to school. If can be written in the form

a + b, find a + b.

**A) 13 B) 15 C) 41 D) 43 E) NOTA**

30) Arnold has “g” backup glasses because he breaks them on Ms. Frizzle’s wild field trips!

g = the slope of the line whose equation is 5x + 6y = -11. Find the value of g.

**A)  B)  C)  D)  E) NOTA**