

**PreJunior Algebraic Systems Summer 2007 PreTest Name:** \_\_\_\_\_

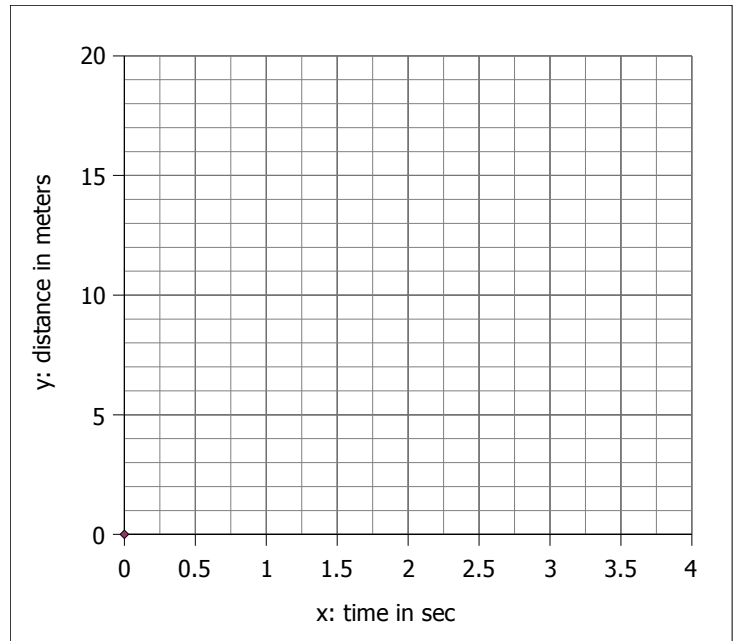
1. \_\_\_\_\_ What is the mode for the data: 9, 10, 11, 12, 12 ?
2. \_\_\_\_\_ What is the median for the data: 9, 10, 11, 12, 12 ?
3. \_\_\_\_\_ What is the mean for the data: 9, 10, 11, 12, 12 ?
4. \_\_\_\_\_ What is the range for the data: 9, 10, 11, 12, 12 ?

5. \_\_\_\_\_ A ball is rolling at 7.5 feet per second. How far will the ball roll in six seconds?

6. A ball is rolled. Over a period of four seconds the distance the ball has traveled is recorded.

On the graph on the right **plot** the following x, y data given in the table:

x: time in seconds	y: distance in meters
0	0
1	3
2	6
3	9
4	12



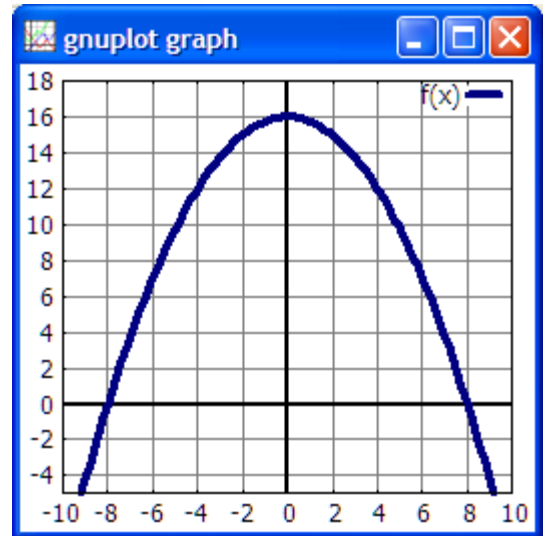
7. \_\_\_\_\_ What is the y-intercept for the line on the graph in question six?
8. Choose two points on the line from question six to determine the slope of the line using the following steps:
  - 8a. \_\_\_\_\_ Determine the run between the two points.
  - 8b. \_\_\_\_\_ Determine the rise between the two points.
  - 8c. \_\_\_\_\_ Determine the slope of the line.
9. \_\_\_\_\_ Using the y-intercept from question seven and the slope from question eight, write the slope-intercept form of the line.
10. \_\_\_\_\_ Use the slope-intercept form of the line you found in question nine to determine how far the ball will roll in 8 seconds.
11. \_\_\_\_\_ Use the slope-intercept form of the line you found in question nine to determine how long it will take the ball to roll 33 meters.

12. \_\_\_\_\_ What is the name of the shape of the curved function on the right?

13. \_\_\_\_\_ What is the y-intercept for the curved function on the right?

14. \_\_\_\_\_ What are the x-intercepts for the curved function on the right?

15. \_\_\_\_\_ If you know how to do so, use the x-intercepts to find the factors for the equation that generated the function seen in the graph on the right.



16. \_\_\_\_\_ If you know how to do so, use the x-intercepts to find b and c in the  $y = -ax^2 + bx + c$  equation that generated the function seen in the graph above on the right.

17. \_\_\_\_\_ Solve for x by factoring:  $x^2 + 8x + 15 = 0$

18. \_\_\_\_\_ Determine  $\sqrt{36}$

19. \_\_\_\_\_ If  $d = 4$  and  $g = 2$ , determine t using the equation:  $t = \sqrt{\frac{2d}{g}}$

20. \_\_\_\_\_ The Fibonacci sequence is given by: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55,... What is the next number in the sequence?

21. \_\_\_\_\_ Calculate  $55 \div 34$  to three decimal places.

22. \_\_\_\_\_ If you have a calculator, determine  $\frac{1+\sqrt{5}}{2}$  to three decimal places.

\_\_\_\_ (I do not have a calculator)