

Name key Date _____ Period _____

5th Six Weeks Test Review
Solving Quadratic Equations

Solve

1. $(5x + 3)(7x + 1) = 0$ _____

$$x = -\frac{3}{5}$$

$$x = -\frac{1}{7}$$

Solve each of the following by using the QUADRATIC FORMULA or by using the CALCULATOR.

State the values for a, b, and c and round your answers to the nearest ^{hundredth} tenth.

2. $2x^2 - 7x - 1 = 0$

a = 2 b = -7 c = -1

Answers: 3.64

-0.14

3. $2x^2 + 7 = -x^2$

a = 1 b = 2 c = -7

Answers: 1.83

-3.83

4. $7x^2 - 28x = 0$

a = 7 b = -28 c = 0

Answers: x = 0

x = 4

Solve each problem using the table on your calculator.

5. A golf ball is hit into the air. The path of the ball can be described by the equation $h = 70t - 5t^2$ where h is the height of the ball in meters and t is the time in seconds.

a) How high is the ball after 3 seconds? 165 meters

b) After how many seconds will the ball be ~~169~~²⁰⁰ meters high? 4 seconds + 10 seconds

c) When will the ball hit the ground? 14 seconds

6. The area of a rectangle is represented by the equation $w^2 - 7w = 18$ where w is the width of the rectangle. Find the width of the rectangle.

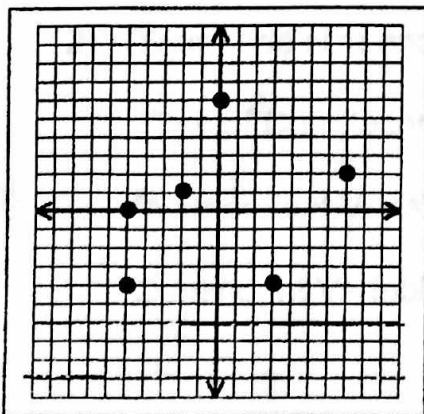
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7. Find the vertex and axis of symmetry of $y = x^2 + 6x + 8$

Vertex $(-3, -1)$

Axis of Symmetry $x = -3$

8.



A. List the ordered pairs: $(-5, 0)$, $(-5, -4)$, $(-2, 1)$, $(0, 6)$, $(7, 2)$

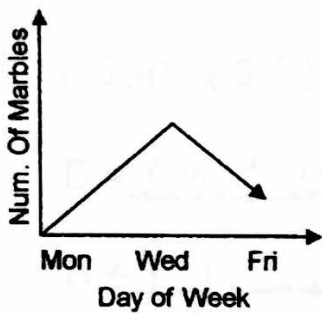
B. Domain: $\{-5, -2, 0, 3, 7\}$

C. Range: $\{0, -4, 1, 6, 2\}$

D. Is it a function? YES

NO

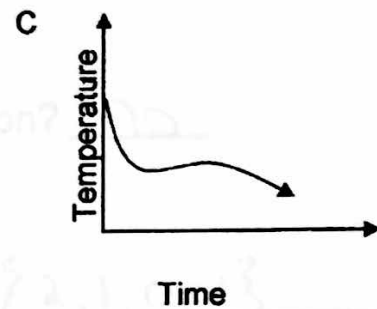
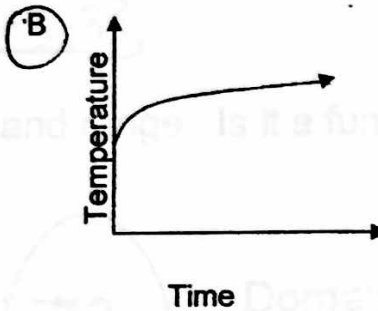
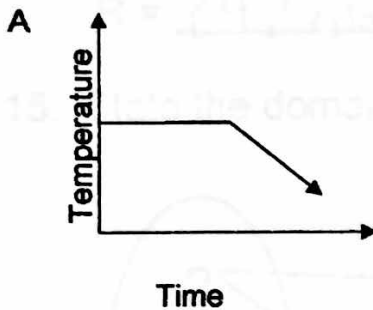
9. Determine the independent and dependent variables.



Dependent Variable # of marbles

Independent Variable Day of week

10. Which graph best matches the following statement:
Your body temperature rises as you exercise.



Name the type of correlation you would expect from each pair of variables below.
Then identify the independent and dependent variables.

11. Speed of Car & Distance traveled to complete stop after brakes are applied.

Type of Correlation: ~~negative~~ positive

Independent Variable: Speed

Dependent Variable: Distance

12. Your shoe size and the length of your leg.

Type of Correlation: none

Independent Variable: _____

Dependent Variable: _____

State the domain and range. Then determine whether or not the relation is a function.

13. $\{(2,4), (3,5), (6,5), (-1,3)\}$

$D = \{2, 3, 6, -1\}$ Function? yes

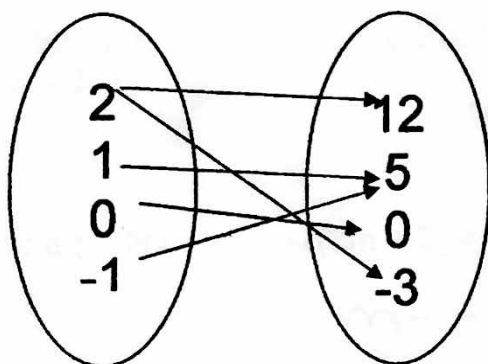
$R = \{4, 5, 3\}$

14. $\{(1,9), (-2,5), (1,6), (-4,-3), (2,8)\}$

$D = \{1, -2, -4, 2\}$ Function? no

$R = \{9, 5, 6, -3, 8\}$

15. State the domain and range. Is it a function? no

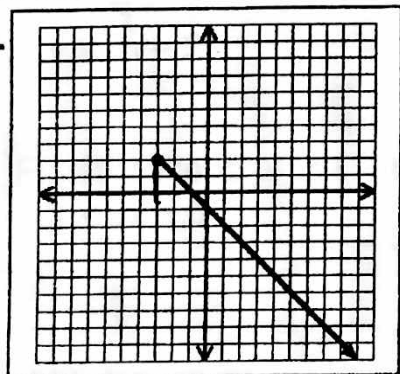


Domain: $\{2, 1, 0, -1\}$

Range: $\{12, 5, 0, -3\}$

Find the domain and range from the graph.

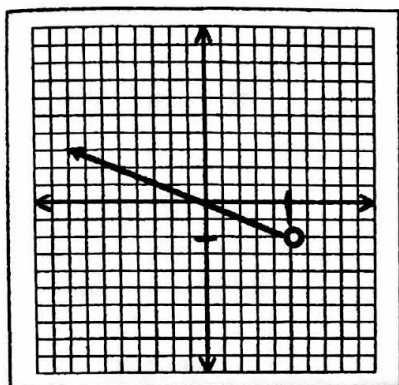
16.



Domain: $-3 \leq x < \infty$

Range: $-\infty < y \leq 2$

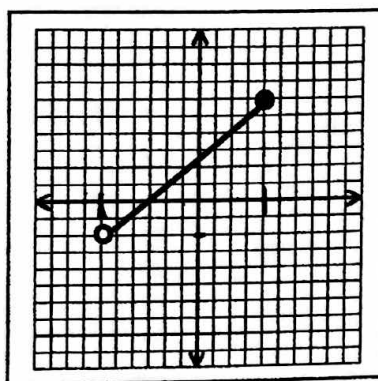
17.



Domain: $-\infty < x < \infty$

Range: $-2 < y < \infty$

18.



Domain: $-2 < x \leq 4$

Range: $-1 < y \leq 3$

19. Find the range of the function given the domain. $D = \{-2, 0, 3, 9\}$
 $f(x) = 4x + 3$

$R = \{-5, 3, 15, 39\}$

20. Find the domain of the function given the range. $R = \{-11, -5, -7, 4\}$
 $f(x) = x - 3$

$D = \{-8, -2, -4, 7\}$

21. Solve the equation: $-7(3m + 3) = -7m - 7$

$m = -1$

22. Solve the equation: $3(8 + 6n) - 2n = -30 + 7n$

$n = -6$

23. Find the slope of the line parallel to the given line.

$y = \frac{5}{4}x - 2$

$\frac{5}{4}$

24. Find the slope of the line perpendicular to the given line.

$y = 9x + 3$

$-\frac{1}{9}$

25. Find the slope of the line through the pair of points.

$(7, 16), (9, 0)$

$-\frac{16}{2} = -8$