

PracticeStudent Edition
Pages 737-741**Integration: Geometry**
The Distance Formula

Find the distance between each pair of points whose coordinates are given. Express answers in simplest radical form and as decimal approximations rounded to the nearest hundredth.

1. $(9, 7), (1, 1)$

2. $(5, 2), (8, -2)$

3. $(1, -3), (1, 4)$

4. $(7, 2), (-5, 7)$

5. $(5, 2), (3, 10)$

6. $(-1, -4), (-6, 0)$

7. $(-3, -1), (-11, 3)$

8. $(-3, -8), (-7, 2)$

9. $(0, -4), (3, 2)$

10. $(-6, 3), (10, 3)$

11. $\left(2, -\frac{1}{2}\right), \left(1, \frac{1}{2}\right)$

12. $\left(\frac{2}{3}, -1\right), \left(2, \frac{1}{3}\right)$

13. $(\sqrt{3}, 3), (2\sqrt{3}, 5)$

14. $(2\sqrt{2}, -1), (3\sqrt{2}, 4)$

Find the value of a if the points with the given coordinates are the indicated distance apart.

15. $(-2, -5), (a, 7); d = 13$

16. $(8, -2), (5, a); d = 3$

17. $(4, a), (1, 6); d = 5$

18. $(a, 4), (-3, -2); d = \sqrt{61}$

Practice

Student Edition

Pages 369–374

Integration: Geometry
Midpoint of a Line Segment

Find the coordinates of the midpoint of the segment with each pair of endpoints.

1. $L(2, 4), P(6, 8)$

2. $W(6, 4), Z(2, 10)$

3. $U(-3, 2), V(-3, -4)$

4. $M(-2, 6), N(8, 6)$

5. $J(12, 3), K(-3, 1)$

6. $A(1, -1), B(5, 2)$

7. $Q(3, 0), R(0, 4)$

8. $G(0, 0), H(3, -4)$

9. $X(-1, 4), Y(5, -4)$

10. $S(-4, -7), T(2, 1)$

11. $C(8, -3), D(5, 4)$

12. $E\left(3, \frac{3}{2}\right), F\left(1, \frac{1}{2}\right)$

If P is the midpoint of line segment AB, find the coordinates of the missing point.

13. $A(6, 3), P\left(1, -\frac{1}{2}\right)$

14. $B\left(\frac{2}{5}, \frac{1}{10}\right), P\left(\frac{3}{5}, \frac{9}{10}\right)$

15. $A(1, 5), P(3, 7)$

16. $B(2, 11), P(5, 7)$

17. $A(4, -1), B(7, -3)$

18. $P(-2, -1), A(-3, -5)$

What does a fish without eyes look like?

To figure out the joke, cross out the letter that matches the answer to each problem.

Find the distance between the two given points.

1. $(3,5)$ and $(6,8)$

2. $(4,-3)$ and $(-1,0)$

3. $(5,-4)$ and $(-1,-2)$

4. $(-2,0)$ and $(0,-4)$

5. $(-3,-4)$ and $(3,4)$

6. $(-2,1)$ and $(1,2)$

Find the midpoint of each segment with these endpoints.

7. $(2,4)$ and $(6,10)$

8. $(-3,4)$ and $(4,-7)$

9. $(0,-3)$ and $(5,0)$

10. $(-7,-3)$ and $(-9,1)$

Given the midpoint and one of the endpoints, find the other endpoint of the segment.

11. $M(3,2)$ and $E(6,8)$

12. $M(-3,7)$ and $E(0,2)$

13. $M(-2,4)$ and $E(5,-5)$

14. $M(0,0)$ and $E(-2,2)$

A	S	T	R	F	A	I	W	E
$(0,-4)$	$(\frac{5}{2}, \frac{3}{2})$	$\sqrt{34}$	$(-9,13)$	$2\sqrt{2}$	10	$(4,7)$	$2\sqrt{5}$	$(\frac{1}{2}, -\frac{3}{2})$

S	C	K	Y	H	U	R	L
$(\frac{1}{2}, 3)$	$3\sqrt{2}$	$(-6,12)$	$\sqrt{10}$	$(4,1)$	$2\sqrt{10}$	$(-8,-1)$	$(2,-2)$

ANSWER: _____

Alg.1 Packet #14

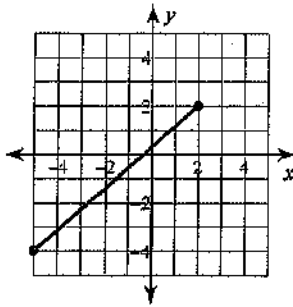
Show all work.

Name _____

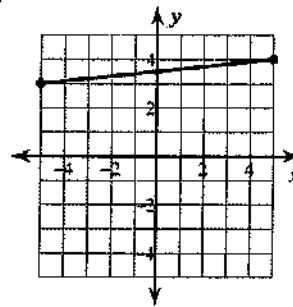
Quiz - Distance and Midpoint

Find the distance between each pair of points.

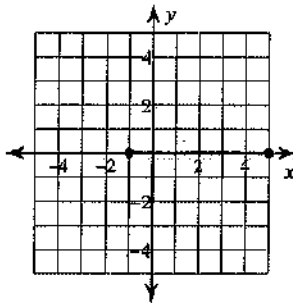
1)



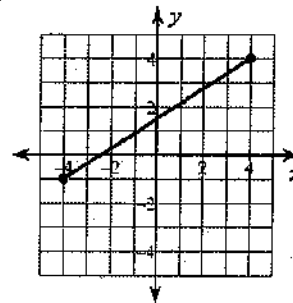
2)



3)



4)



5) $(8, -8), (-8, -1)$

6) $(-6, -4), (6, -2)$

7) $(-2, 0), (-6, 7)$

8) $(1, -4), (-8, 6)$

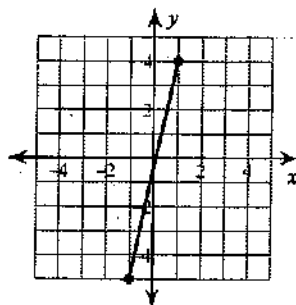
9) $(4, 0), (-3, 5)$

10) $(7, 5), (-6, -3)$

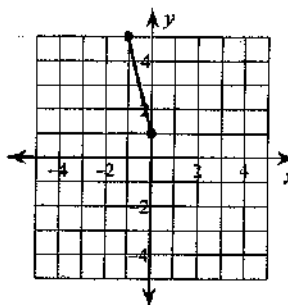
Quiz-page 2

Find the midpoint of each line segment.

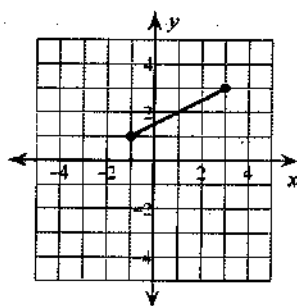
11)



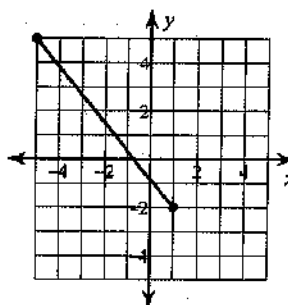
12)



13)



14)



Find the midpoint of the line segment with the given endpoints.

15) $(1, -9), (9, 6)$

16) $(-3, -6), (3, -4)$

17) $(-9, 9), (3, 9)$

18) $(4, 8), (-6, -4)$

19) $(-6, 6), (9, -1)$

20) $(9, -8), (10, -1)$

LINEAR to QUADRATIC

Linear function:

$$y = mx + b$$



Quadratic function:

$$y = ax^2 + bx + c$$

- 1** For a linear function, if $m = 2$ and $b = 4$, then

$$y =$$

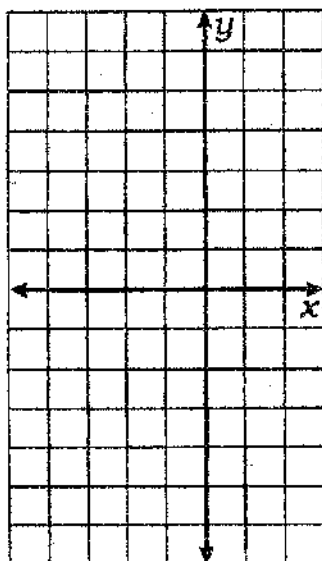
- a. Complete the table below, then graph this function.

x	y
0	
1	
-3	

- b. For your graph, find:

- The slope of the line.
- The y-intercept.
- The x-intercept.

- c. Every point in the _____ represents a _____ of the equation.



- 2** For a quadratic function, if $a = 1$, $b = 2$, and $c = -5$, then

$$y =$$

- a. Complete the table below, then graph this function.

x	y
-4	
-3	
-2	
-1	
0	
1	
2	

- b. If $x = \frac{-b}{2a}$, find x.

- c. What is the connection between this value of x and your graph?

- 3** For a linear function, if $m = \frac{2}{3}$ and $b = -1$, then

$$y =$$

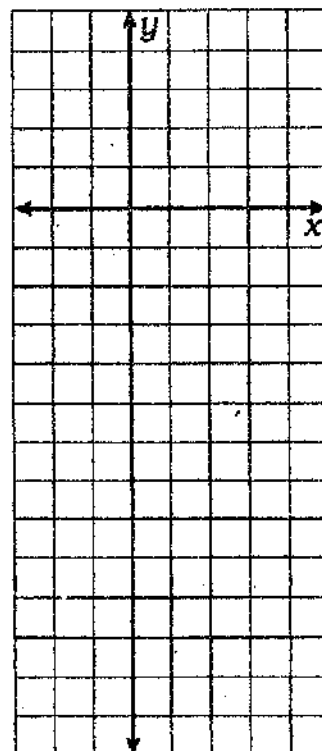
- a. Complete the table below, then graph this function.

x	y
0	
3	
-3	

- b. For your graph, find:

- The slope of the line.
- The y-intercept.

- c. For what value of x does $y = 0$?



- 4** For a quadratic function, if $a = -2$, $b = 4$, and $c = 3$, then

$$y =$$

- a. Complete the table below, then graph this function.

x	y
-2	
-1	
0	
1	
2	
3	
4	

- b. Estimate from the graph: For what values of x does $y = 0$?