

Find the distance between the pair of points.

1)  $(-7, 6)$   $(-1, -6)$

Find the midpoint of the line segment joining the two points.

2)  $(2, -6)$  and  $(-8, -7)$

Decide whether or not the points are the vertices of a right triangle.

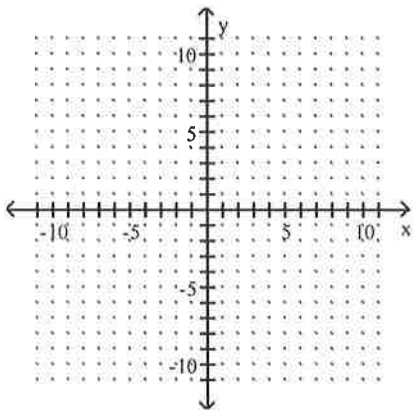
3)  $(-2, 13)$ ,  $(9, 2)$ ,  $(11, 4)$

Determine if the points are collinear.

4)  $(5, -1)$ ,  $(-3, 6)$ ,  $(4, -2)$

Graph the circle.

5)  $(x - 3)^2 + y^2 = 4$



Determine whether or not the equation has a circle as its graph.

6)  $x^2 - 2x + y^2 + 6y = -5$

**Given an endpoint of a line segment and its midpoint, find the other endpoint.**

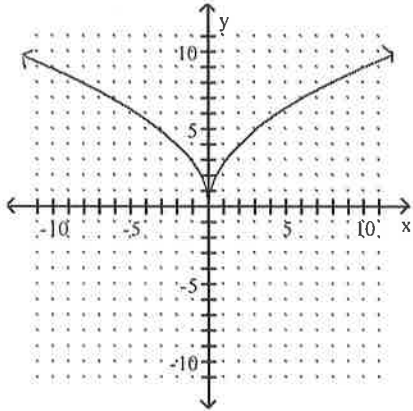
- 7) If  $(8, -5)$  is the endpoint of a line segment, and  $(6, -1)$  is its midpoint, find the other endpoint.

**Decide whether the relation defines a function. Explain**

- 8) Annual New Telemarketing Companies

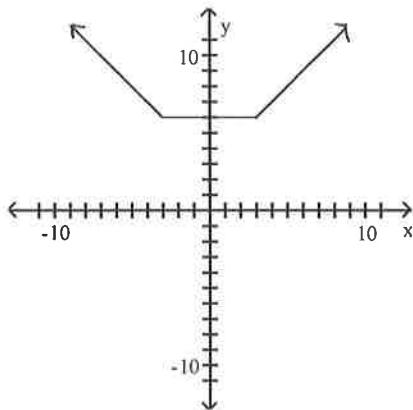
Year	Number
1995	34
1996	68
1997	143
1998	112
1999	252

- 9) Is the relation a function? Explain.



**Determine the intervals over which the function is decreasing, increasing, and constant.**

- 10)



**Write the equation of the line.**

- 11) Through  $(-6, -7)$   
parallel to  $-2x + 7y = 26$

- 12) Through (7, -7),  
perpendicular to  $-3x + 8y = 35$

Find the slope and the y-intercept of the line.

13)  $y = 6x + 9$

Find an equation of the line satisfying the conditions. Write the equation in slope-intercept form.

- 14) Through (-5, -2); perpendicular to  $-5x - 2y = 27$

<sup>(A)</sup> Graph the piece-wise function and then find the requested value . <sup>(B)</sup>

15)

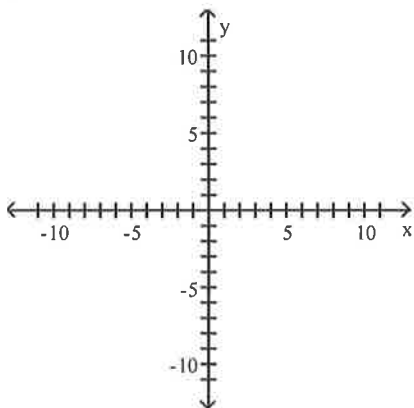
$$f(-2) \text{ for } f(x) = \begin{cases} 6x, & \text{if } x \leq -1 \\ x - 2, & \text{if } x > -1 \end{cases}$$

Compare the graph of the given quadratic function  $f$  with the graph of  $y = x^2$ .

16)  $f(x) = (x - 8)^2 + 4$

Graph the basic function using a solid line and the transformed function using a dotted line.

17)  $y = |x - 3|$

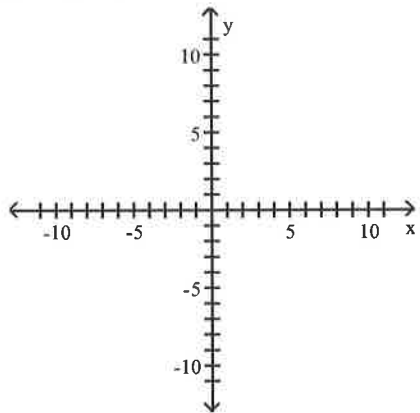


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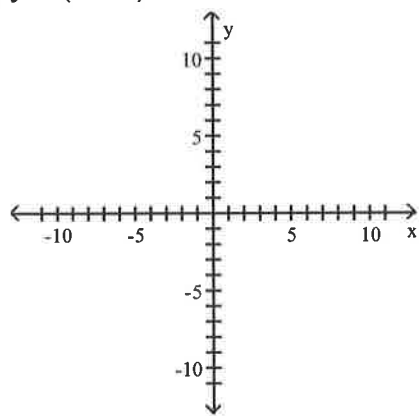
$$16) f(x) = (x - 8)^2 + 4$$

Graph the basic function using a solid line and the transformed function using a dotted line.

$$17) y = |x - 3|$$



$$18) y = (x - 3)^2 - 2$$



Determine if the function is even, odd, or neither.

$$19) f(x) = 5x^2 - 3$$

$$20) f(x) = -5x^3 + 2x$$

Perform the requested operation or operations.

$$21) f(x) = 2x - 9, g(x) = 4x - 4$$

Find  $(f - g)(x)$ . Give the domain.

$$22) f(x) = 9x^2 - 7x, g(x) = x^2 - 3x - 28$$

Find  $\left(\frac{f}{g}\right)(x)$ . Give the domain

23)  $f(x) = 5x + 15$ ,  $g(x) = 3x - 1$

Find  $(f \circ g)(x)$ . Give the domain.

**Find the indicated composite for the pair of functions. Give the domain.**

24)  $(f \circ g)(x)$ :  $f(x) = \sqrt{x + 9}$ ,  $g(x) = 8x - 13$