

H Math 2
Test 4 Review

Name _____

Match each equation with its graph:

1) $y = x^2 - 3$ Graph: _____

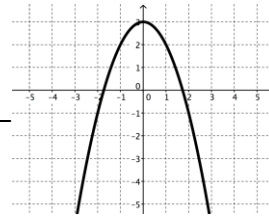
2) $y = (x - 3)^2$ Graph: _____

3) $y = (x + 3)^2$ Graph: _____

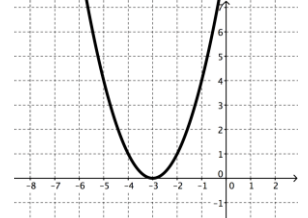
4) $y = -x^2 + 3$ Graph: _____

5) $y = 3x^2$ Graph: _____

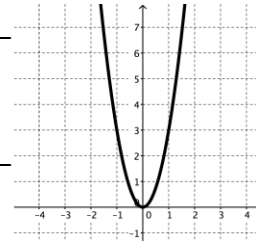
Graph A



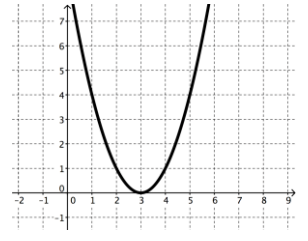
Graph B



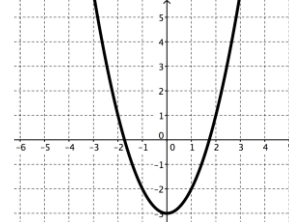
Graph C



Graph D



Graph E



Find the missing term to make the following expression a perfect square trinomial:

6) $x^2 - 20x$ _____

7) $x^2 + 4x$ _____

8) $x^2 + 11x$ _____

9) $x^2 + \frac{1}{4}x$ _____

10) $x^2 - \frac{3}{5}x$ _____

11) $x^2 + \frac{2}{3}x$ _____

Complete the square to put each of the following equations into vertex form:

12) $f(x) = x^2 + 12x + 6$

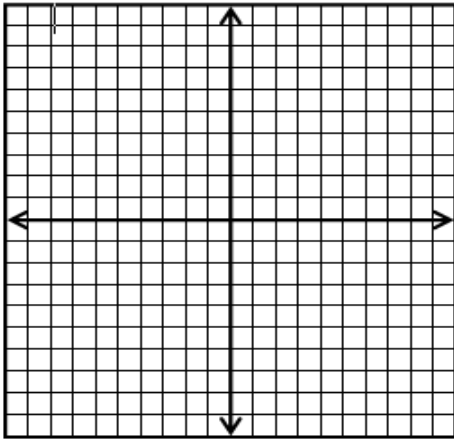
13) $g(x) = x^2 - 7x - 5$

14) $h(x) = 2x^2 - 10x + 5$

15) $k(x) = -3x^2 + 12x + 1$

Graph each of the following. (Include at least two accurate points on either side of the line of symmetry.) State the vertex, axis of symmetry, and the transformations of parent function.

16) $y = -2(x + 1)^2 + 3$

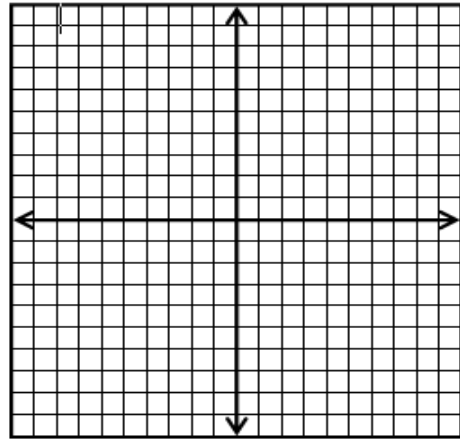


Vertex: _____

Axis of Symmetry: _____

Transformations from $y = x^2$:

17) $y = x^2 + 4x + 3$

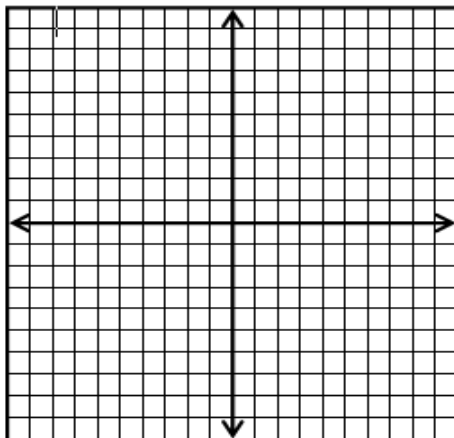


Vertex: _____

Axis of Symmetry: _____

Transformations from $y = x^2$:

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

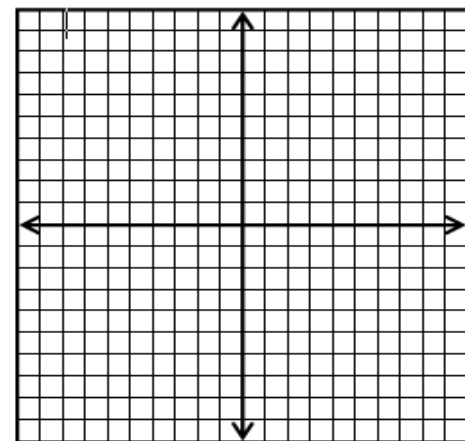


Vertex: _____

Axis of Symmetry: _____

Transformations from $y = x^2$:

19) $y = x^2 - 4x - 5$

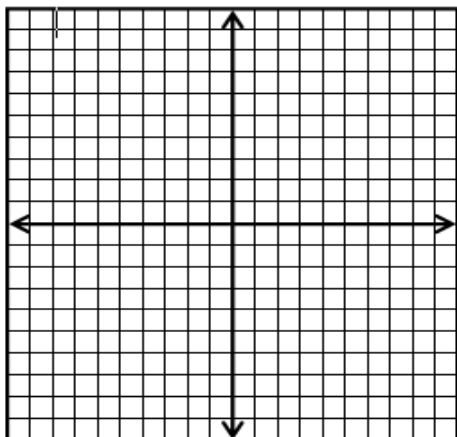


Vertex: _____

Axis of Symmetry: _____

Transformations from $y = x^2$:

20) $y = \frac{1}{2}(x - 1)^2 - 5$

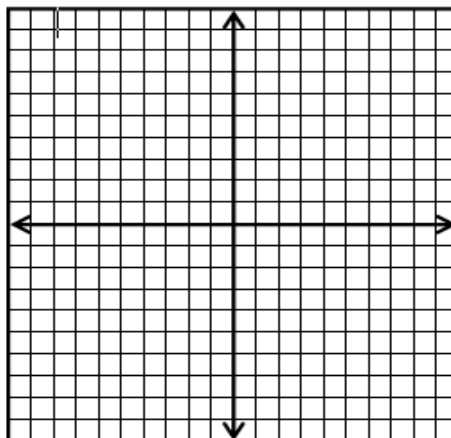


Vertex: _____

Axis of Symmetry: _____

Transformations from $y = x^2$:

21) $y = -3x^2 + 12x - 9$



Vertex: _____

Axis of Symmetry: _____

Transformations from $y = x^2$:

Match each standard form equation with its equivalent vertex form equation in column A and its factored form equation from column B.

Column A	Column B	Standard Form (Question)	Vertex Form (Column A)	Factored Form (Column B)
_____	_____	22) $y = x^2 - 4x - 12$	a. $y = (x - 4)^2 - 4$	a. $y = (x + 2)(x - 6)$
_____	_____	23) $y = x^2 + 4x - 12$	b. $y = (x + 4)^2 - 4$	b. $y = (x + 2)(x + 6)$
_____	_____	24) $y = x^2 - 8x + 12$	c. $y = (x + 2)^2 - 16$	c. $y = (x - 2)(x - 6)$
_____	_____	25) $y = x^2 + 8x + 12$	d. $y = (x - 2)^2 - 16$	d. $y = (x - 2)(x + 6)$

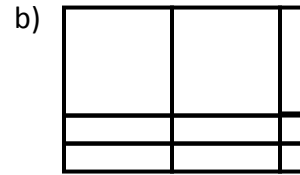
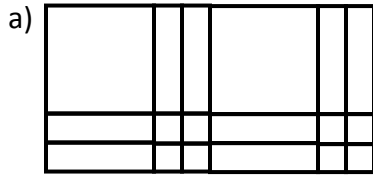
26) Put $y = 3(x - 5)(2x + 1)$ into standard form.

27) Put $y = -2(x - 1)^2 + 5$ into standard form.

28) Put $y = 4x^2 + 20x + 24$ into factored form.

29) Put $y = -6x^2 - 15x + 9$ into factored form.

30) Write two equivalent expressions for each block.



Factor completely.

31) $x^2 - 10x + 24$

32) $3x^2 - 11x + 6$

33) $x^2 - 36$

34) $2x^2 + 8x + 6$

35) $4x^2 - 64$

36) $x^2 + 4x + 1$

37) $x^2 + 12x - 28$

38) $4x^2 + 8x - 5$

39) $3x^2 - 14x - 5$

40) $5x^2 - 25x$

41) $14x^2 + 6x - 8$

42) $2x^2 - x - 8$

43) $x^2 + 9$

44) $6x^2 + 25x + 24$

45) $-12x^2 + 38x - 6$