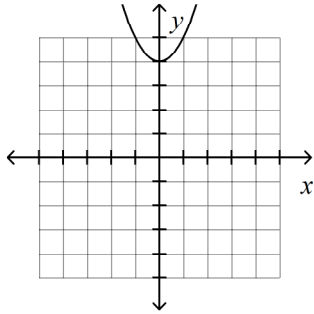


Algebra II: Mid-Chapter 4 Review (4.1 - 4.4)

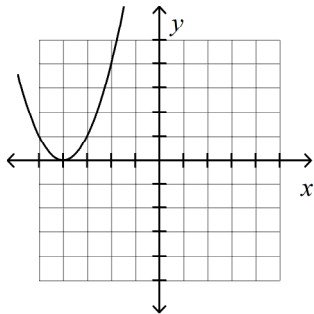
What is the graph of the function?

1. $y = 4x^2$

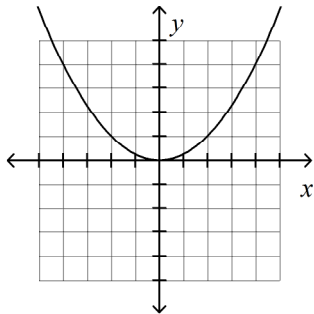
a.



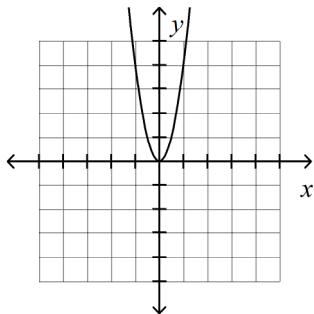
b.



c.

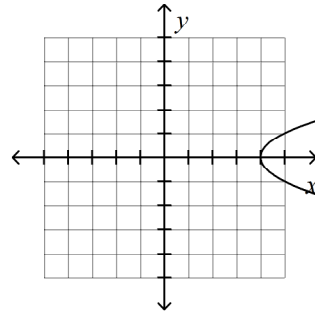


d.

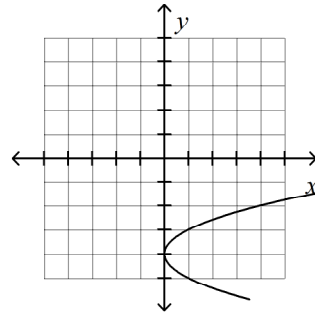


2. $x = 5y^2$

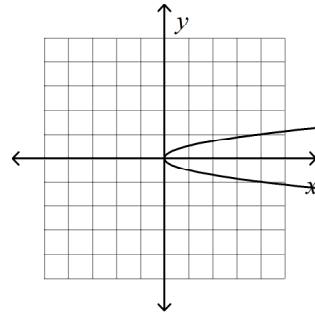
a.



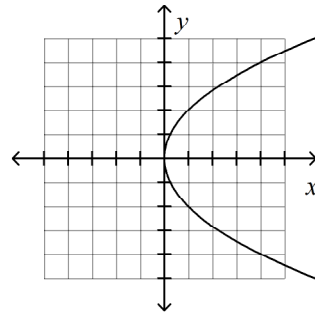
b.



c.

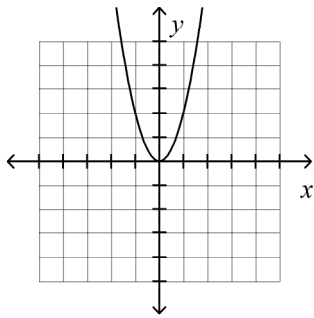


d.

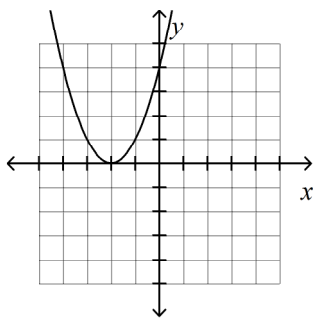


3. $f(x) = \frac{1}{2}x^2$

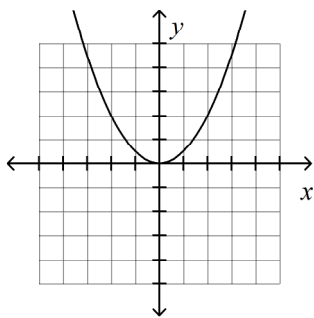
a.



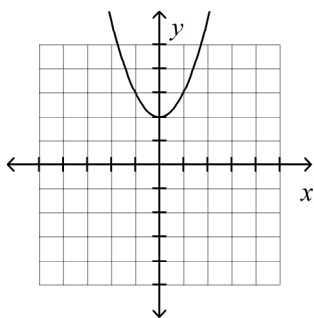
b.



c.

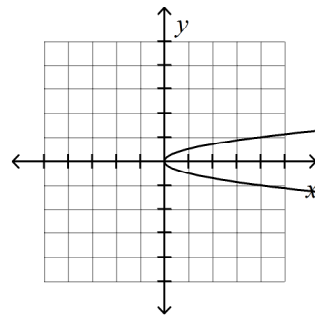


d.

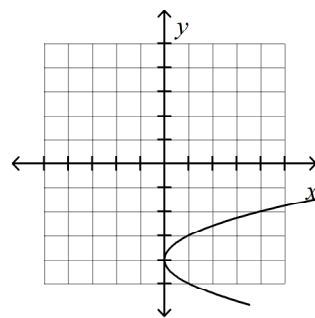


4. $f(y) = \frac{1}{4}y^2$

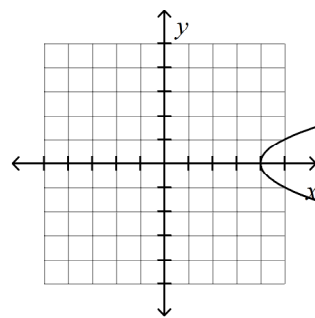
a.



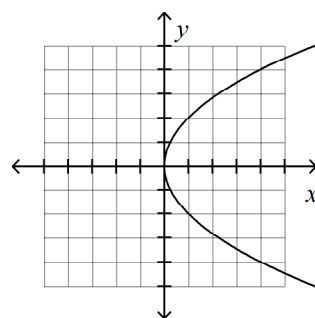
b.



c.

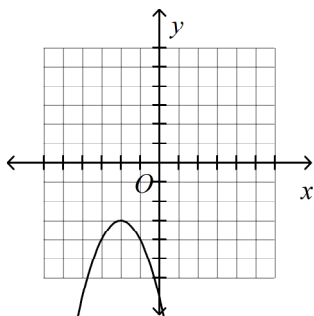


d.

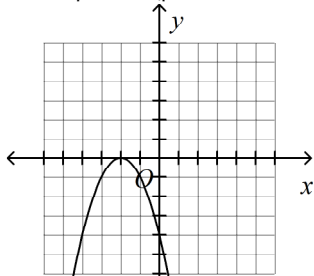


5. Which is the graph of $y = -(x + 2)^2 - 3$?

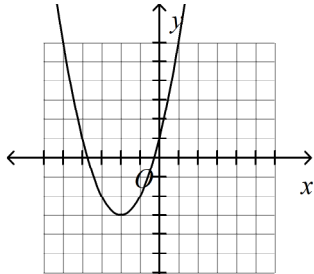
a.



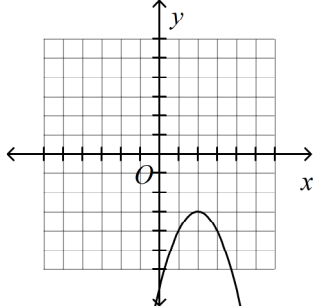
b.



c.



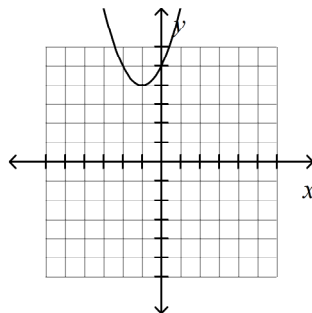
d.



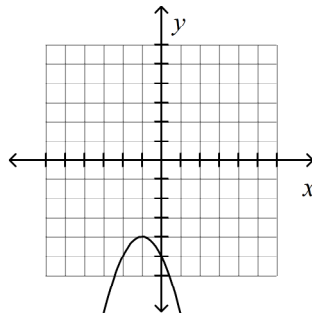
What is the graph of the equation?

6. $y = x^2 + 2x + 5$

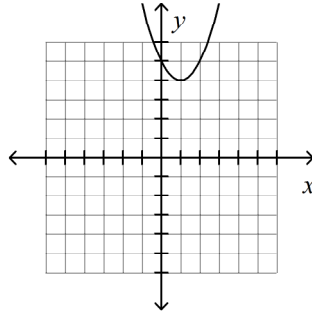
a.



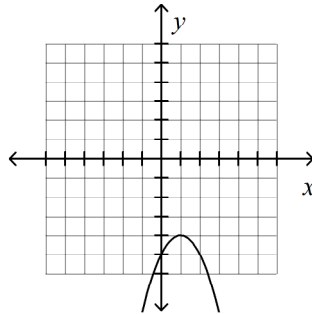
b.



c.

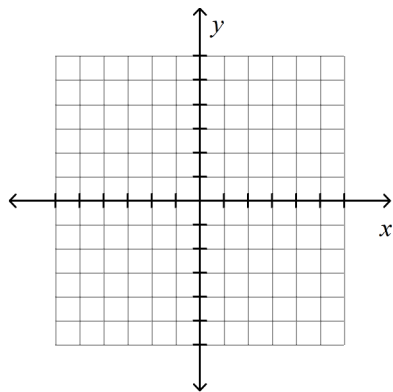


d.

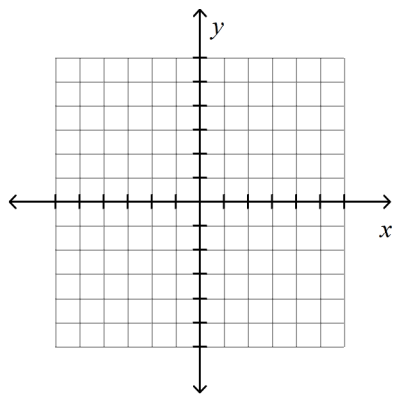


Graph each function. State how each graph is a translation of $f(x) = x^2$.

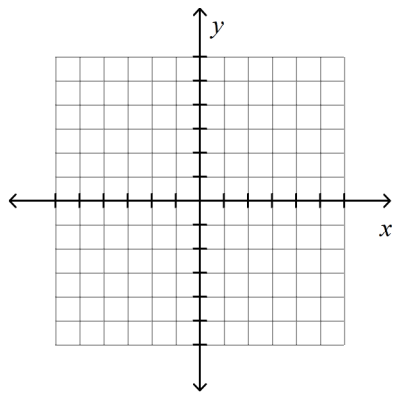
7. $y = x^2 + 3$



8. $y = (x + 4)^2$



9. $y = (x - 2)^2 - 3$



10. Identify the vertex and the axis of symmetry of the graph of the function $y = -3(x + 3)^2 + 5$.

11. Identify the maximum or minimum value of the graph of the function $y = 2(x - 3)^2 - 2$.

12. Identify the domain and range of the graph of the function $y = (x + 2)^2 - 4$.

13. Identify the x-intercept(s) and y-intercept of the graph of the function $y = (x + 2)^2 - 4$.

14. State the steps that transform the graph of $y = x^2$ to $y = -(x - 3)^2 + 4$?

15. State the vertex and axis of symmetry of the equation:

$$y = 2x^2 + 24x - 18$$

16. State the maximum or minimum value of the function.

State the range of the function.

$$y = 2x^2 + 32x - 20$$

17. Write the equation, in vertex form, of a parabola that contains the following point and the vertex.

point: (5, 6) vertex: (-5, 8)

18. Given the equation of a parabola in vertex form, write the equation in standard form.

$$f(x) = -3(x - 5)^2 - 4$$

19. Factor completely:

$$x^2 + 11x + 28$$

20. Factor completely:

$$25x^2 + 15x$$

21. Factor completely:

$$5x^2 + 45x + 100$$

22. Factor completely:

$$4x^2 + 29x + 30$$

23. Factor completely:

$$5x^2 - 23x - 10$$

24. Factor completely:

$$16x^2 - 40x + 25$$

25. Factor completely:

$$49x^2 - 64$$