

**THE HONOR SYSTEM APPLIES!!!!**

**1. Which describes the following transformation?**

$f(x + 4) - 2$

- a. horizontal shift to the right 4 and vertical shift down 2
- b. horizontal shift to the left 4 and vertical shift up 2
- c. horizontal shift to the right 4 and vertical shift up 2
- d. horizontal shift to the left 4 and vertical shift down 2

**2. Which describes the following transformation?**

$f(x - 4) - 2$

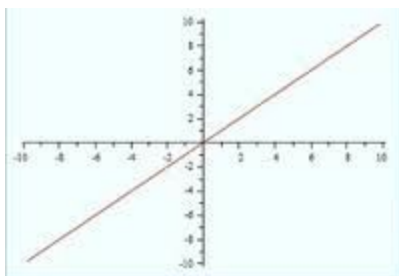
- a. horizontal shift to the right 4 and vertical shift down 2
- b. horizontal shift to the left 4 and vertical shift down 2
- c. horizontal shift to the right 4 and vertical shift up 2
- d. horizontal shift to the left 4 and vertical shift up 2

**3. Which describes the following transformation?**

$3f(x - 2)$

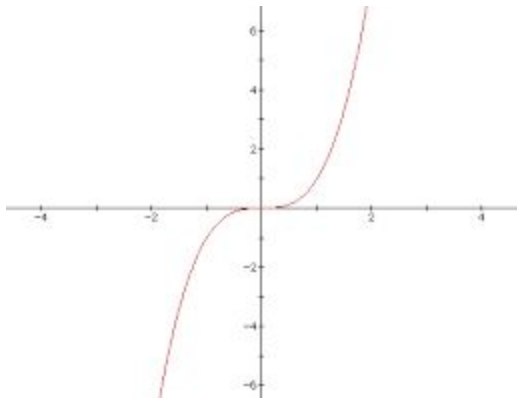
- a. horizontal shift to the left 2 and vertical stretch by a factor of 3
- b. horizontal shift to the right 2 and vertical stretch by a factor of 3
- c. horizontal shift to the right 2 and vertical compression by a factor of  $\frac{1}{3}$
- d. horizontal shift to the left 2 and vertical compression by a factor of  $\frac{1}{3}$

**4. Name the parent function.**



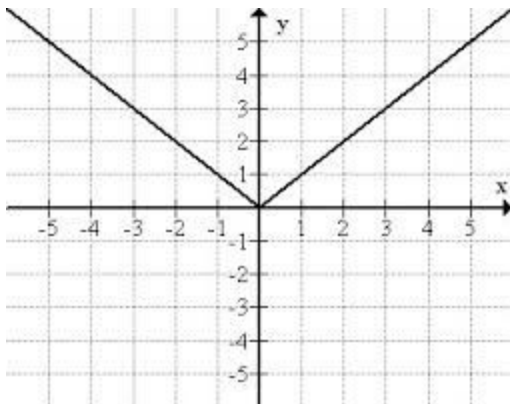
- a. Linear
- b. Constant
- c. absolute value
- d. quadratic

5. Name the parent function.



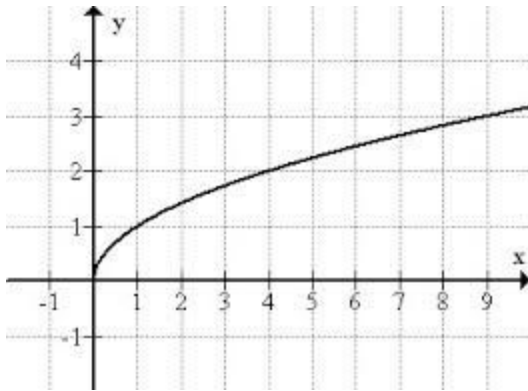
- a. Linear
- b. Quadratic
- c. cube root
- d. Cubic

6. Name the parent function.



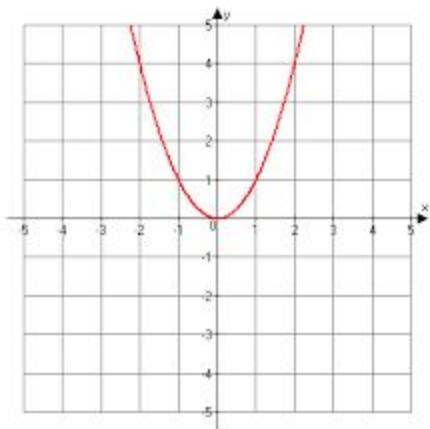
- a. Linear
- b. Quadratic
- c. absolute value
- d. cubic

7. Name the parent function.



- a. cube root
- b. Quadratic
- c. Cubic
- d. square root

8. Name the parent function.



- a. Linear
- b. Quadratic
- c. Cubic
- d. Logarithmic

9. Name the parent function.

$$f(x) = |x|$$

- a. Constant
- b. square root
- c. Linear
- d. absolute value

10. Name the parent function.

$$f(x) = x^3$$

- a. Cubic
- b. cube root
- c. Exponential
- d. quadratic

11. Name the parent function.

$$f(x) = \sqrt{x}$$

- a. cube root
- b. square root
- c. Quadratic
- d. linear

12. Name the parent function.

$$f(x) = x^2$$

- a. Quadratic
- b. Cubic
- c. square root
- d. logarithmic

13. Identify the new coordinate of the point (3 , -2) transformed by  $f(x - 5) + 6$  .

- a. (2,-4)
- b. (-2,4)
- c. (8,4)
- d. (-2,-8)

14. Which description accurately describes one of the transformations of  $f(x) = 5x^2 + 2$  from the parent function?

- a. Vertical Stretch of 5
- b. Horizontal shift 2 right
- c. Horizontal Compression by  $\frac{1}{5}$
- d. Vertical Compression by  $\frac{1}{5}$

15. Which description accurately describes the transformation of  $f(x) = -\sqrt{(x) - 2}$  from the parent function?

- a. Reflect over x-axis, Up 2
- b. Reflect over x-axis, Down 2
- c. Reflect over y-axis, Up 2
- d. Reflect over y-axis, Down 2

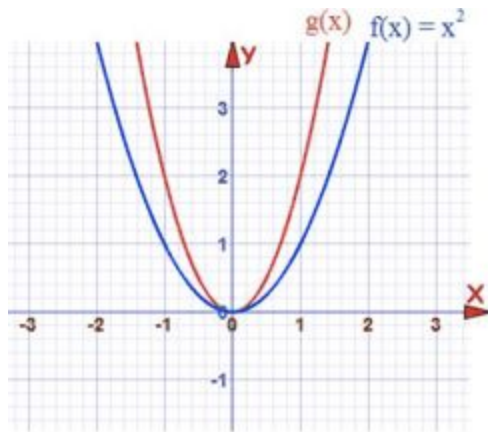
16. Which description accurately describes one of the transformations of  $f(x) = -|x + 3|$  from the parent function?

- a. Reflect over x-axis, Left 3
- b. Reflect over x-axis, Right 3
- c. Reflect over y-axis, Left 3
- d. Reflect over y-axis, Right 3

17. Which description does **not** accurately describe this functions transformation(s) of  $f(x) = \frac{2}{3}(x - 7)^2$  from the parent function?

- a. Vertical Translation up 7
- b. Vertical Compression of  $\frac{2}{3}$
- c. Vertical Stretch of  $\frac{3}{2}$ , Right 7
- d. Vertical Translation down 7

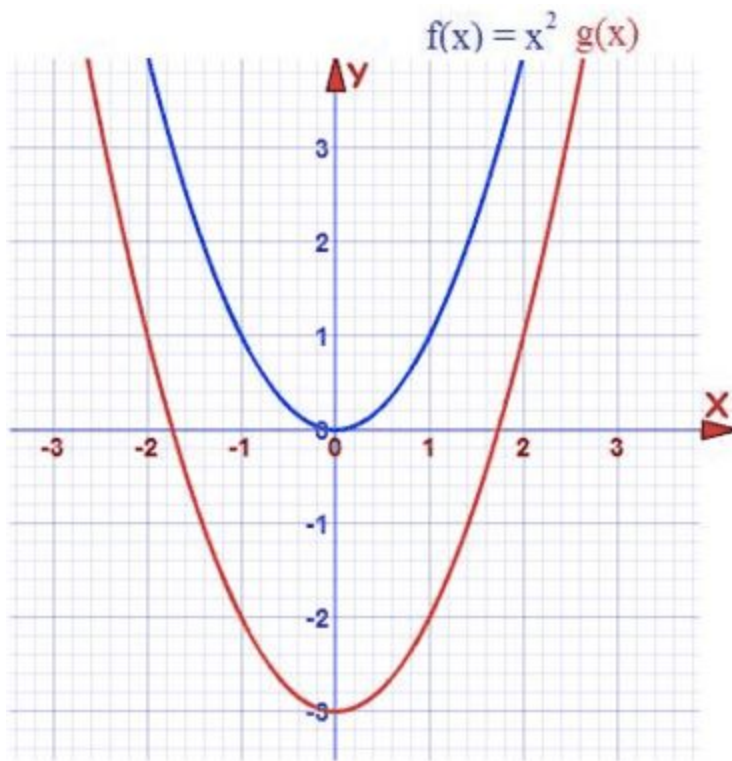
18.



The graph shows the function  $f(x) = x^2$  in blue and another function  $g(x)$  in red. Which of the following could be the equation for  $g(x)$ ?

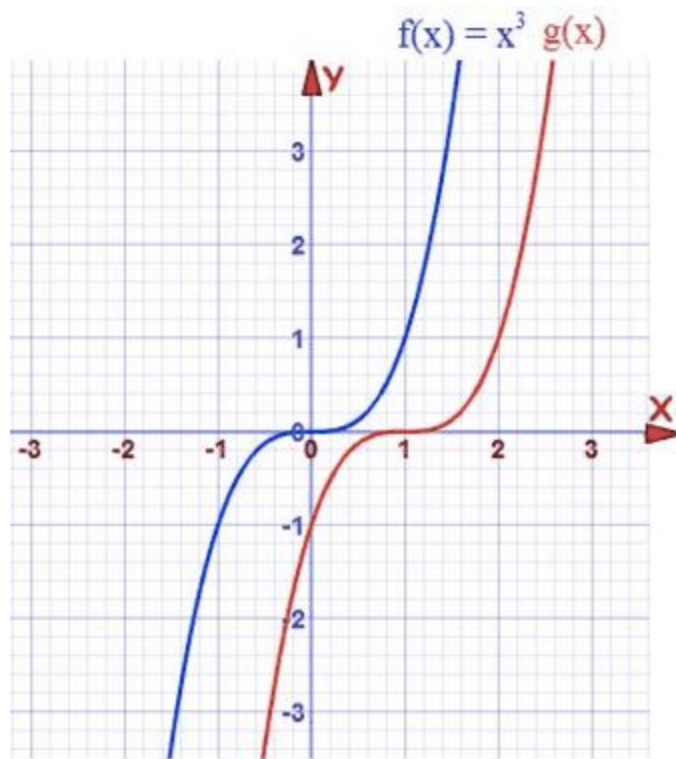
- a.  $g(x) = f(2x)$
- b.  $g(x) = 0.5f(x)$
- c.  $g(x) = f(0.5x)$
- d.  $g(x) = 2f(x)$

19. Determine the equation for the red graph.



- a.  $g(x) = (x - 3)^2$
- b.  $g(x) = x^2 - 3$
- c.  $g(x) = x^2 + 3$
- d.  $g(x) = 3x^2$

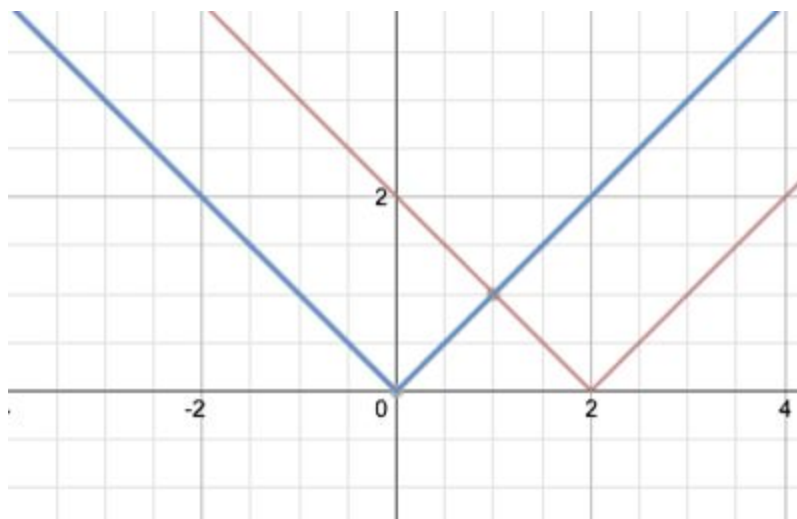
20. Determine the equation for the red graph.



- a.  $g(x) = x^3 + 1$
- b.  $g(x) = x^3 - 1$
- c.  $g(x) = (x-1)^3$
- d.  $g(x) = (x+1)^3$



21. Determine the equation for the red graph.



- a.  $g(x)=f(x + 2)$
- b.  $g(x)=f(x) + 2$
- c.  $g(x)=f(x - 2)$
- d.  $g(x)=f(x) - 2$