

NAME _____

Evaluate Piecewise Functions

Evaluate each function using the given piecewise functions:

$$f(x) = \begin{cases} x + 2, & \text{if } x \leq -2 \\ 3x, & \text{if } x > -2 \end{cases}$$

$$g(x) = \begin{cases} x, & \text{if } x < 0 \\ 2, & \text{if } x \geq 0 \end{cases}$$

1. $f(-6)$

2. $f(0)$

3. $g(0)$

4. $g(7)$

5. $f(-2)$

6. $g(-8)$

7. $5f(4) + 3f(-2)$

8. $8[g(-3) + g(0)]$

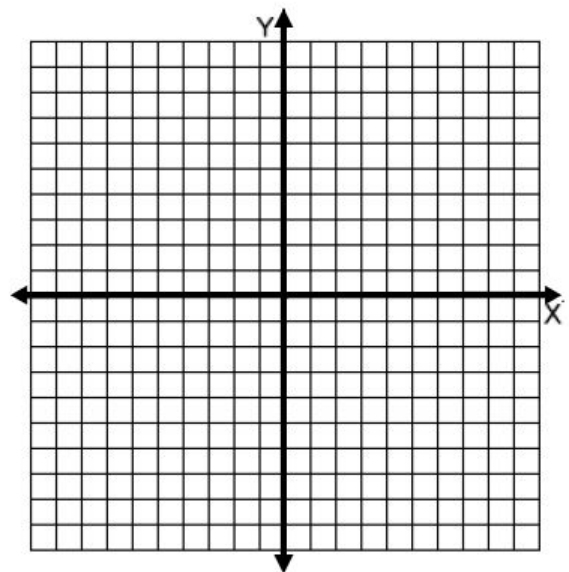
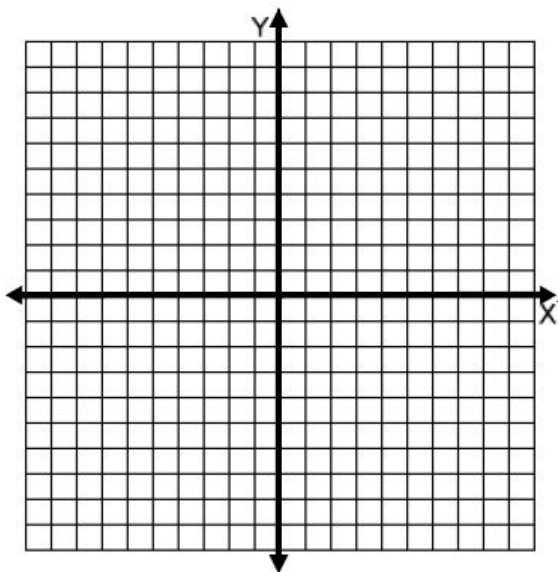
9. $-6f(-1) - f(8)$

Evaluate and Graph Piecewise Functions

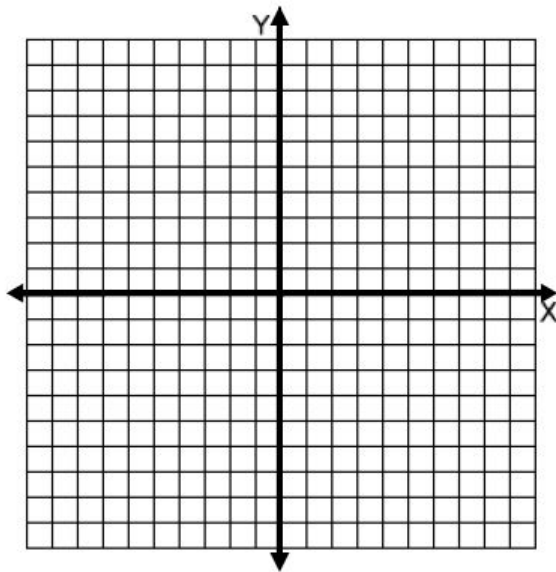
Graph each piecewise function.

10. $f(x) = \begin{cases} 4x - 2 & x \geq 2 \\ -\frac{x}{3} + 4 & x < 2 \end{cases}$

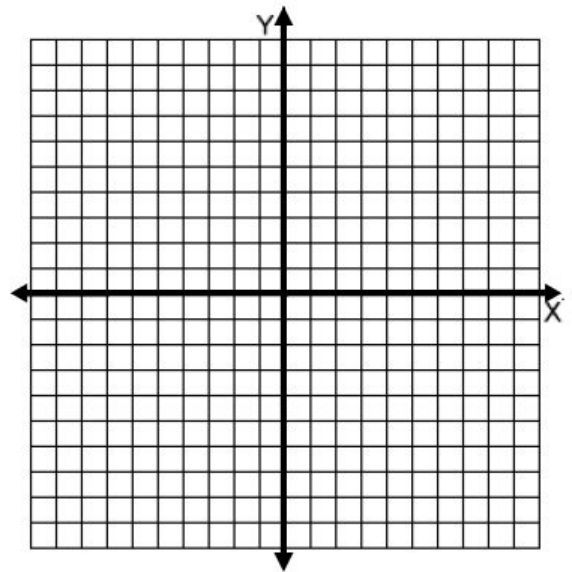
11. $f(x) = \begin{cases} -x, & -4 \leq x < -2 \\ x - 3, & -2 \leq x < 1 \\ x^2 - 2, & x \geq 1 \end{cases}$



$$12. f(x) = \begin{cases} 2, & \text{if } x \leq -3 \\ -1, & \text{if } -3 < x < 3 \\ 3, & \text{if } x \geq 3 \end{cases}$$



$$13. f(x) = \begin{cases} x^2 & x \leq 0 \\ -x^2 + 4 & x > 0 \end{cases}$$



14. The admission rates at an amusement park are as follows:

Children 5 years old and under: free

Children between 5 years and 12 years, inclusive: \$10

Children between 12 years and 18 years, inclusive: \$25

Adults: \$35

Write a piecewise function that gives the admission price for a given age. Then graph the function.

