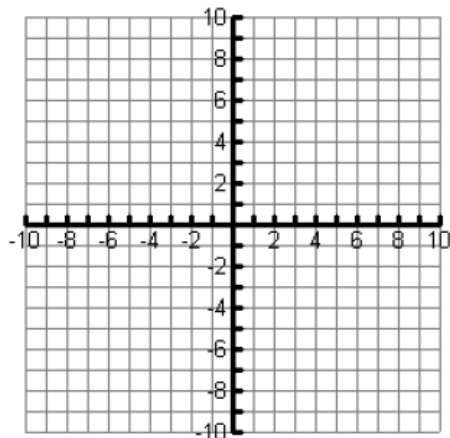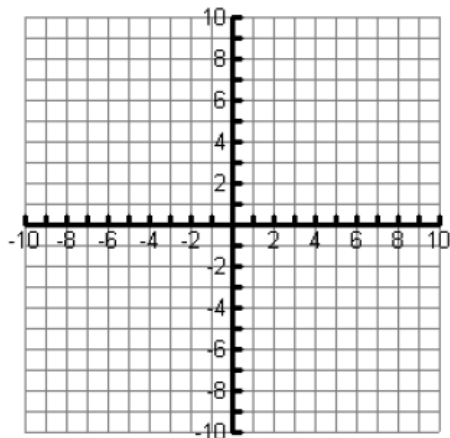# Graphing Piecewise Functions

Graph each function. State the domain and range.
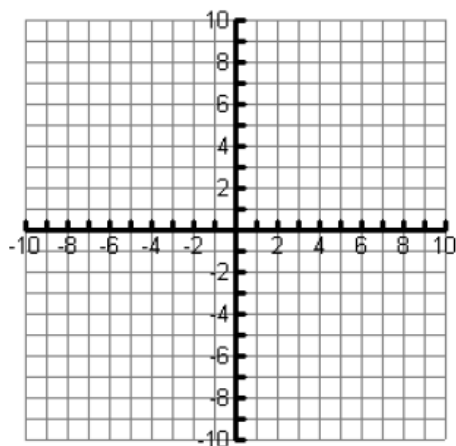
1. $f(x) = \begin{cases} -x & \text{if } x \leq 2 \\ x & \text{if } x > 2 \end{cases}$
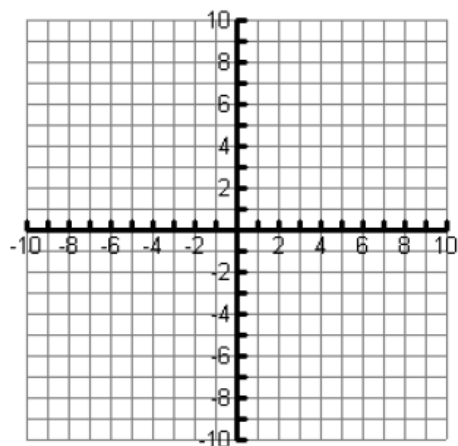
2. $f(x) = \begin{cases} 2, & x > -3 \\ -5, & x < -3 \end{cases}$
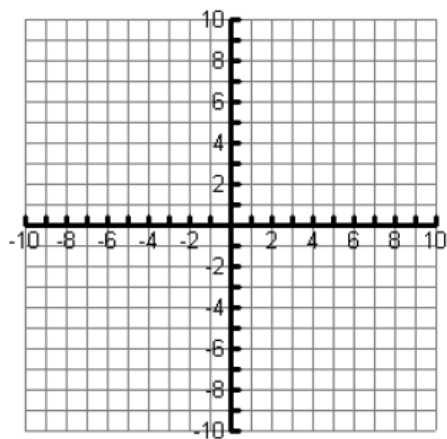
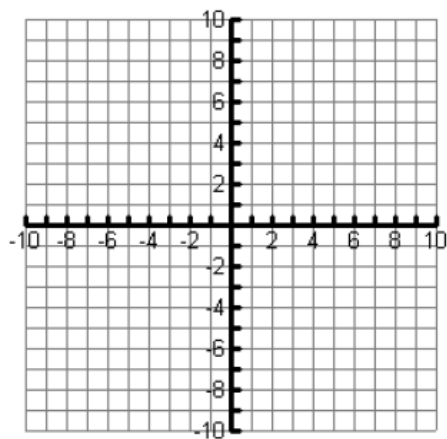3. $f(x) = \begin{cases} -1, & x \leq -2 \\ 2, & x > -2 \end{cases}$

4. $f(x) = \begin{cases} -1, & x \leq -1 \\ 1, & -1 < x < 1 \\ x, & x > 1 \end{cases}$
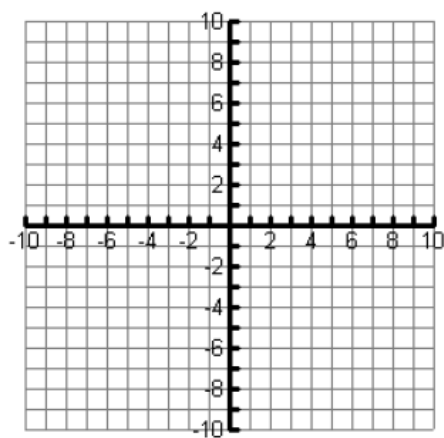
5. $f(x) = \begin{cases} -x + 2, & x \leq 0 \\ \frac{1}{2}x + 3, & x > 0 \end{cases}$
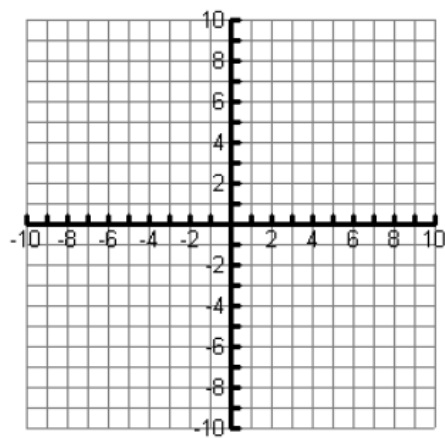
6. $f(x) = \begin{cases} x + 2, & x \leq 2 \\ -\frac{1}{2}x + 4, & x > 2 \end{cases}$
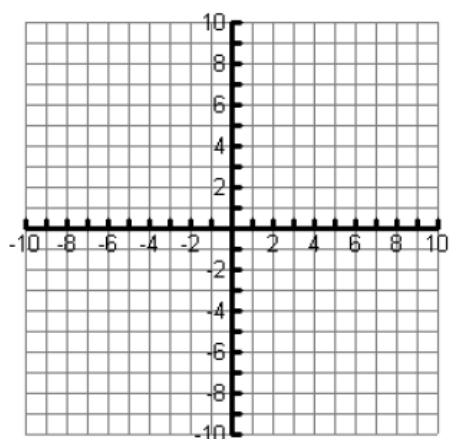
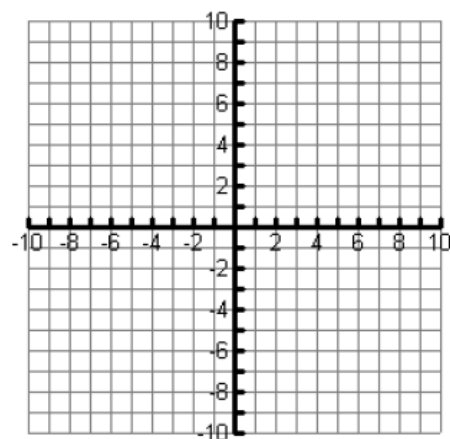7. $f(x) = \begin{cases} -3x - 4, & x \le -2 \\ x + 1, & x > -2 \end{cases}$

8. $f(x) = \begin{cases} -x, & x \le 0 \\ 2x - 2, & x > 0 \end{cases}$

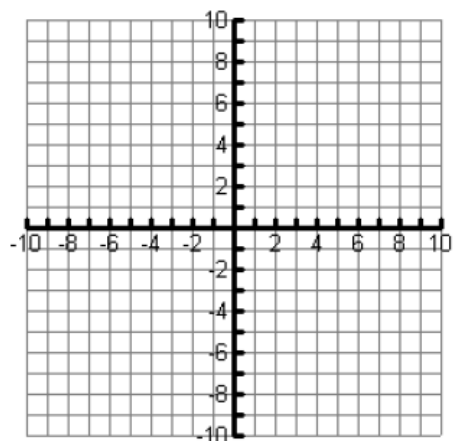9. $f(x) = \begin{cases} -x - 4, & x < -2 \\ -\frac{1}{2}x, & -2 \le x \le 2 \\ -1, & x > 2 \end{cases}$

10. $f(x) = \begin{cases} 3, & x < -1 \\ x + 1, & 1 \le x \le 4 \end{cases}$

11. $f(x) = \begin{cases} \frac{1}{2}x - 1, & x \ne 4 \\ 3, & x = 4 \end{cases}$

12. $f(x) = \begin{cases} x + 4, & -6 \le x < 2 \\ -6, & x = 2 \\ -x + 2, & x > 2 \end{cases}$