1-4: Graph the piecewise function.

1. $f(x) = \begin{cases} x, & if -3 \le x < 1 \\ 2x - 5, & if\ 1 \le x < 6 \end{cases}$
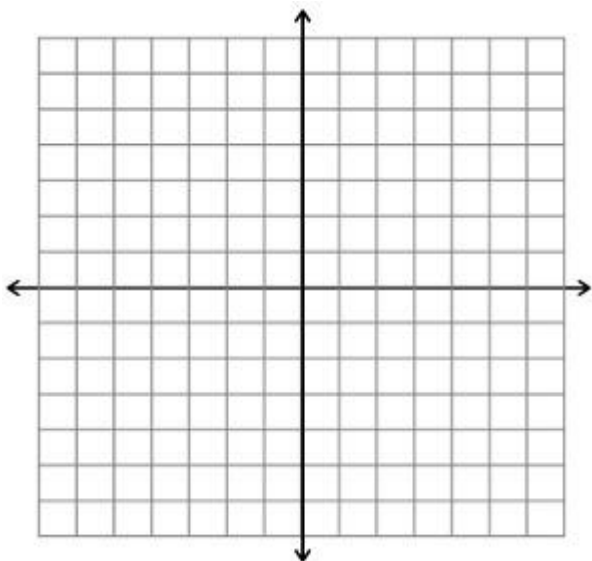
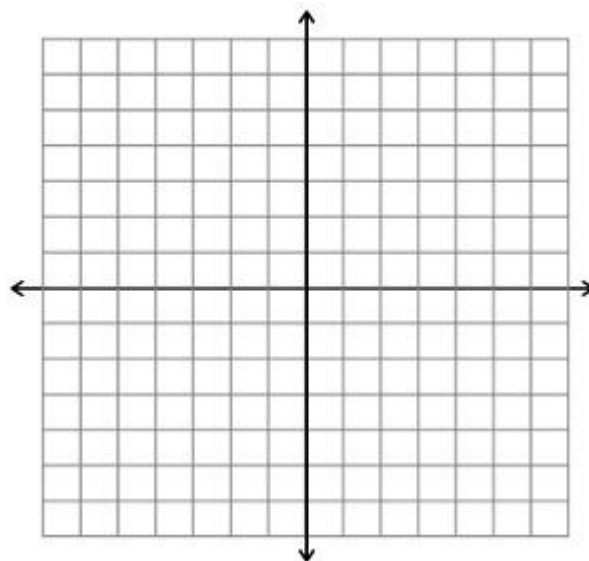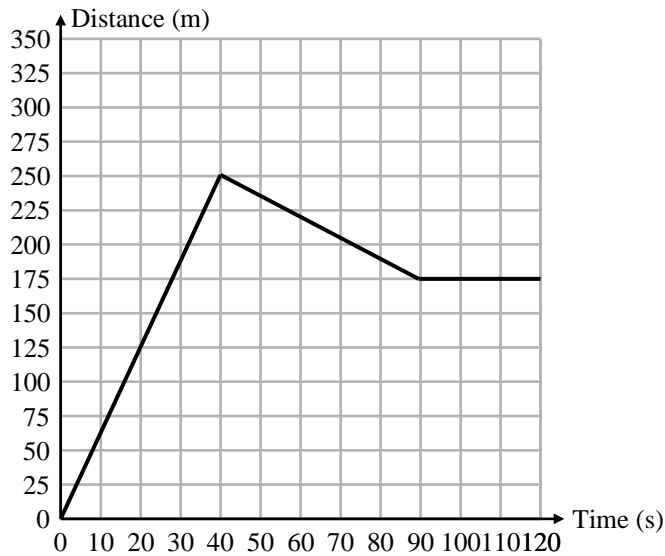2. $f(x) = \begin{cases} x + 6, & if\ x \le -3 \\ 3x + 4, & if -3 < x < 1 \end{cases}$
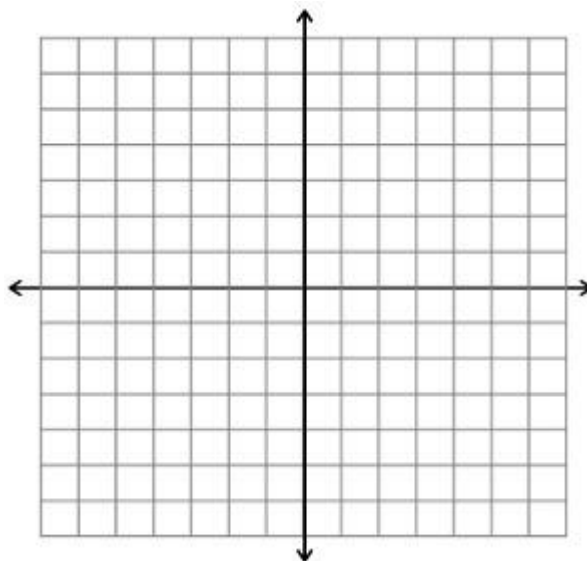
3. $f(x) = \begin{cases} \dfrac{1}{2}x, & if -6 < x \le -2 \\ 4, & if -2 < x < 3 \\ -5x + 10, & if\ x \ge 3 \end{cases}$
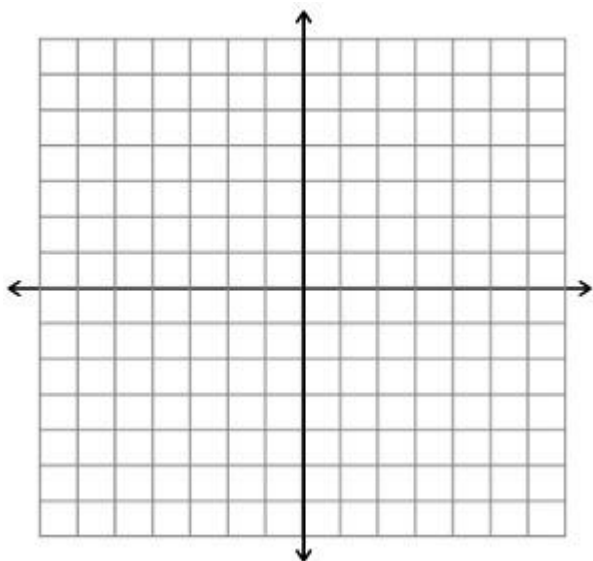
4. $f(x) = \begin{cases} 6, & if -5 < x < 0 \\ x + 3, & if\ 0 \le x \le 4 \\ -4, & if\ x > 4 \end{cases}$

5. The graph shows the motion of a train car on a train track. Use the graph to answer the questions.

Distance (m)

a. What is happening at time = 40s?

b. What is happening from time = 0s until time = 40s? What is the slope of this line? Show your work.

c. What is happening from time = 40s until time = 90s? What is the slope of this line? Show your work.

d. What is happening from time = 90s until time = 120s? What is the slope of this line? Show your work.

e. Write an equation for this graph. Be sure to include the domain.