Pre-Calc AB Worksheet #52 : Answers
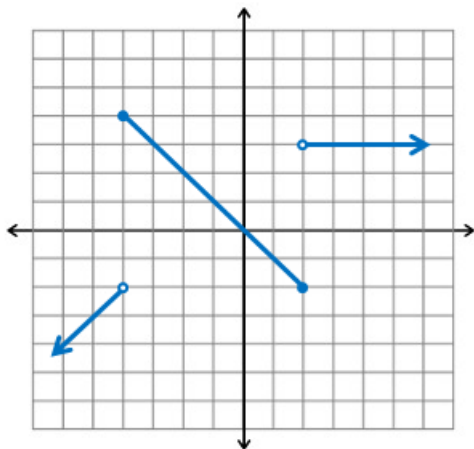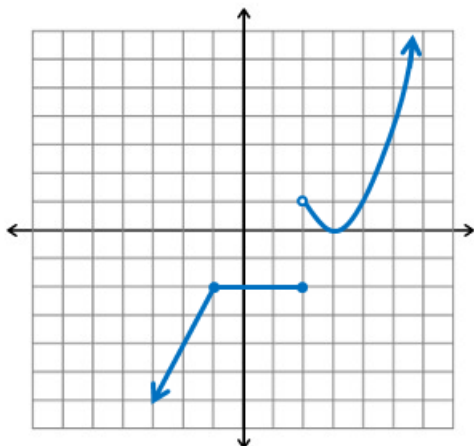
1. (a) $f(-5) = -3$, $f(2) = -2$, $f(\pi) = 3$

(b)

2. (a) $f(-3) = -6$, $f(0) = -2$, $f(3) = 0$

(b)

3. A. $\quad f(x) = \begin{cases} -\frac{1}{2}x - \frac{3}{2} & \text{if } x < -1 \\ 2 & \text{if } -1 \leq x \leq 3 \\ -x + 7 & \text{if } x > 3 \end{cases}$

Domain: $\mathbb{R}$, Range: $\mathbb{R}$

B. $\quad f(x) = \begin{cases} -x - 2 & \text{if } x \leq 0 \\ x + 2 & \text{if } x > 0 \end{cases}$

Domain: $\mathbb{R}$, Range: $[-2, \infty)$

C. $\quad f(x) = \begin{cases} -x & \text{if } x < 3 \\ 1 & \text{if } x = 3 \\ 3 & \text{if } x > 3 \end{cases}$

Domain: $\mathbb{R}$, Range: $(-3, \infty)$

D. $\quad f(x) = \begin{cases} -3 & \text{if } x < -2 \\ x^2 & \text{if } -2 \leq x \leq 2 \\ -\mid x - 4 \mid & \text{if } x > 2 \end{cases}$

Domain: $\mathbb{R}$, Range: $(-\infty, 4]$