

PIECEWISE FUNCTIONS

$$f(x) = \begin{cases} 4x-7 & x < -3 \\ 2x^2-5 & -3 \leq x < 2 \\ \frac{4}{x+2} - 1 & 2 \leq x \leq 8 \end{cases}$$

$$f(1) = 2(1)^2 - 5 = -3 \quad f(5) = \frac{4}{5+2} - 1$$

$$f(-3) = 2(-3)^2 - 5 = 2 \cdot 9 - 5 = 13 \quad = \frac{4}{7} - \frac{7}{7} = \boxed{-\frac{3}{7}}$$

$$f(10) = \text{undefined}$$

Domain: $(-\infty, 8]$ \leftarrow Do not have to find domain & range.

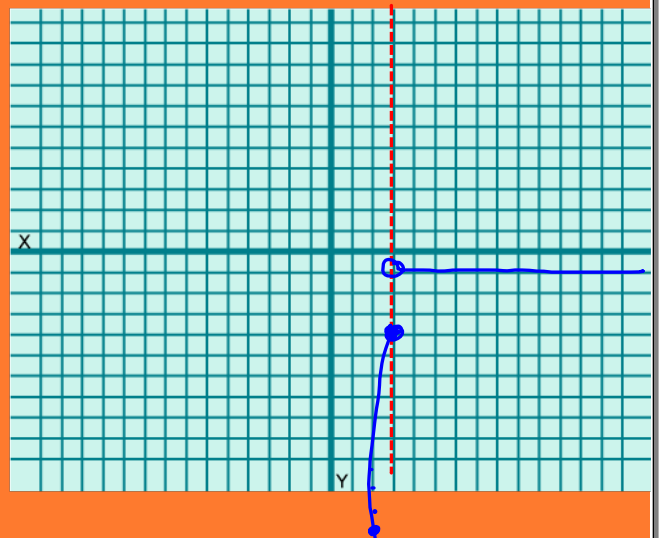
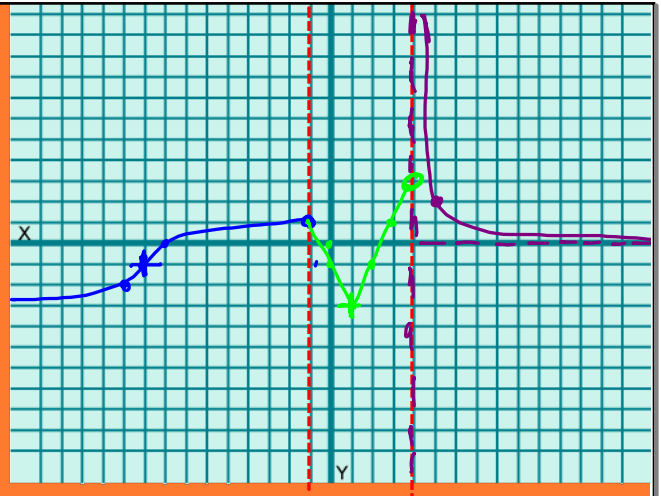
$$f(x) = \begin{cases} \sqrt[3]{x+9} - 1 & x \leq -1 \\ 2|x-1| - 3 & -1 < x < 4 \\ \frac{2}{(x-4)^2} & x \geq 4 \end{cases}$$

$$\begin{array}{r|l} 0 & 0 \\ 1 & 1 \\ 8 & 2 \end{array}$$

Right $1/x \cdot 2$

$$f(x) = \begin{cases} -2(x-5)^2 + 4 & x \leq 3 \\ -1 & x > 3 \end{cases}$$

$$\begin{array}{r|l} 1 & x-2 \\ 2 & x-8 \\ 3 & x-18 \end{array} \quad y = -1$$



Write the equation of the piecewise function in proper form.

$$f(x) = \begin{cases} \frac{-3}{x+8} + 2 & x < -5 \\ \frac{3}{2}x + 2 & -5 \leq x < 4 \\ -(x-6)^3 & x > 4 \end{cases}$$

