

$$f(x) = \frac{x^2 - x - 6}{(x-5)} = \frac{(x-3)(x+2)}{x-5}$$

10/17/18

No holes

Vertical Asymptotes: $x-5=0$
 $x=5$ VA

Horizontal / slant Asymptotes: slant

Divide: $x-5 \overline{) x^2 - x - 6}$
 $\underline{-(x^2 - 5x)}$
 $4x - 6$
 $\underline{-(4x - 20)}$
 14

$14 \Rightarrow$ remainder: Irrelevant to my slant asymptote.

slant asymptote: $y = x + 4$

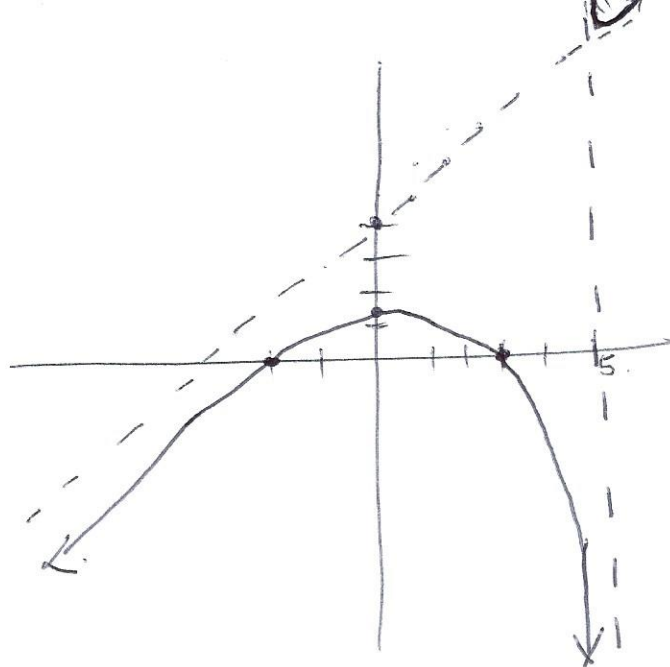
y-int: $\frac{0^2 - 0 - 6}{0 - 5} = \frac{6}{5} = 1.2$

x-int: $\left(\frac{(x-3)(x+2)}{x-5} \right) \times (x-5) = 0 \times (x-5)$

$$(x-3)(x+2) = 0$$

$$x=3 \quad x=-2$$

$$(3, 0) \quad (-2, 0)$$



$$\text{test: } 5.01 \Rightarrow \frac{(5.01^+ - 3)(5.01^+ + 2)}{5.01^+ - 5} = +\infty$$

$$\text{test: } 4.99 \Rightarrow \frac{(4.99^+ - 3)(4.99^+ + 2)}{4.99^+ - 5} = -\infty$$