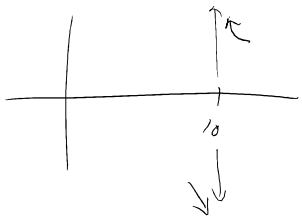
- Graph $f(x) = \dfrac{(x-3)^2(x+5)}{(x+5)(x-10)}$

Hole @ $x=-5$ $\quad r(x) = \dfrac{(x-3)^2}{x-10}$ $\quad r(-5) = \dfrac{(-5-3)^2}{-5-10} = \dfrac{64}{-15}$

Zero @ $x=3$ (multiplicity 2, so "bounce")

V.A @ $x=10$ $\quad f(10.1)$ is $\dfrac{(+)(+)}{(+)(+)}$

$f(9.9)$ is $\dfrac{(+)(+)}{(+)(-)}$



$n=3, k=2$, so no H.A.

$f(100000)$ is $\dfrac{(+)(+)}{(+)(+)}$ so +

$f(-1000000000)$ is $\dfrac{(+)(-)}{(-)(-)}$ so −

y-int $= \dfrac{(-3)^2(5)}{(5)(-10)} = \dfrac{9}{-10}$