34) NEW REL MIN AT $x=-3$

NEW P.O.I. AT $x=-6$

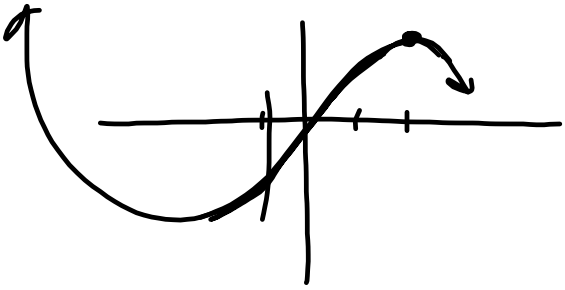
$y=-2f(x+5)-1$

LEFT 5

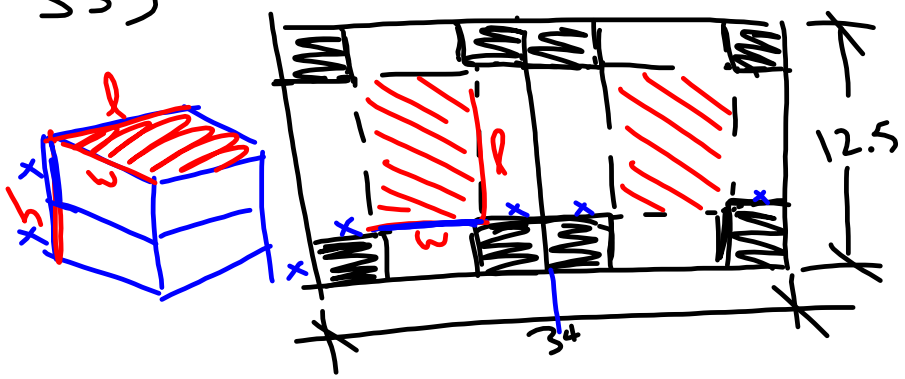
DOWN 1

REFLECTION x-AXIS

VERT EXP BY FO 2



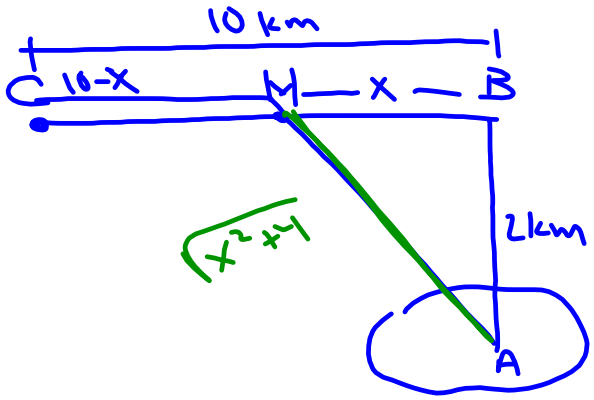
35)



$V = h \cdot w \cdot l$

$V(x) = (17-2x)(12.5-2x)(2x)$

$w \quad l \quad h$



UG $3500/km

UW $5000/km

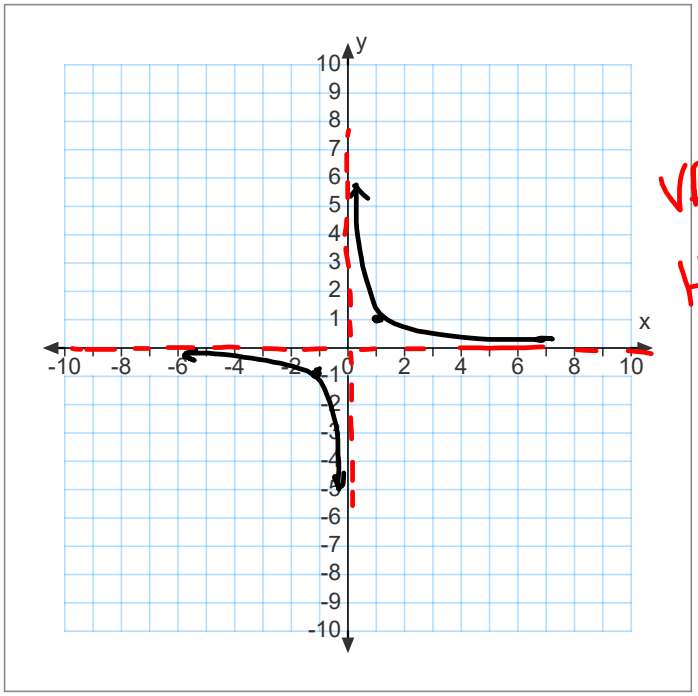
$C(x)$ = UW cost + UG cost

= (cost/km)(km) + (cost/km)(km)

= $(5000)(\sqrt{x^2+4}) + (3500)(10-x)$

= $5000\sqrt{x^2+4} + 35000 - 3500x$

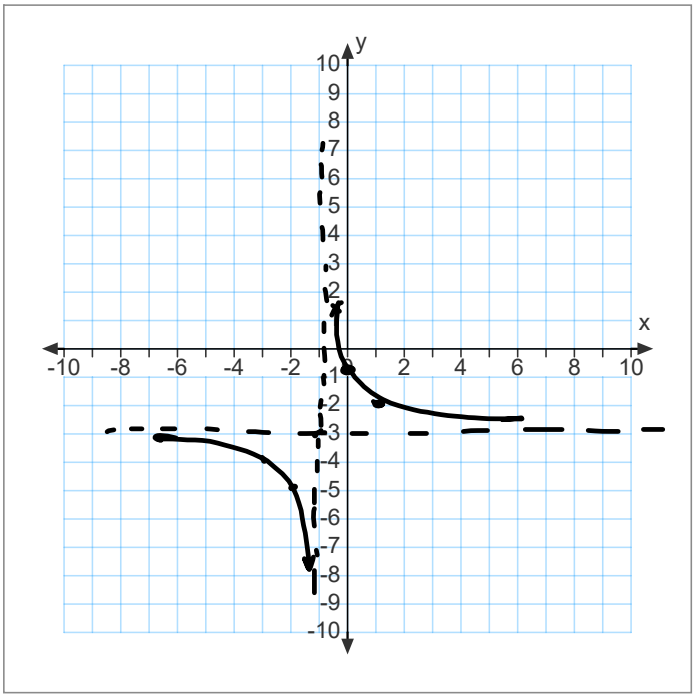
3-7 Graphs of Rational Functions



$y = \frac{1}{x}$

VA: $x = 0$

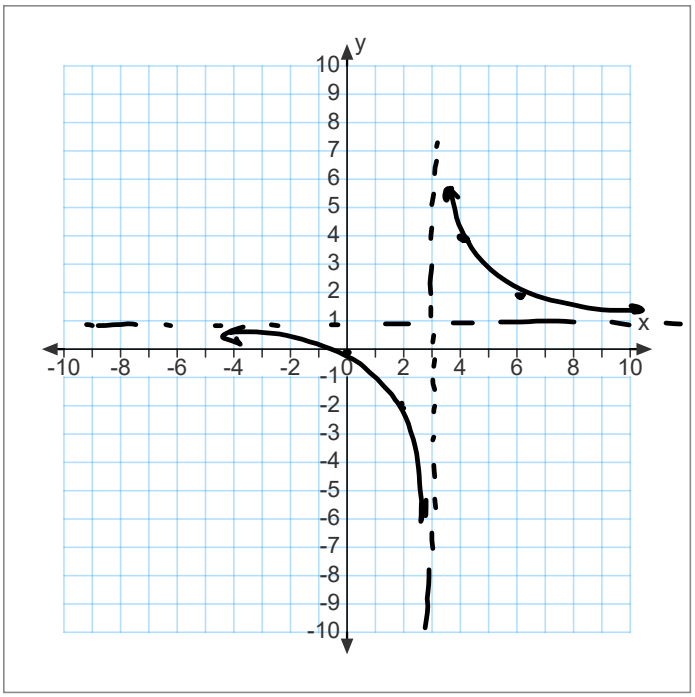
HA: $y = 0$



$y = \frac{2}{x+1} - 3$

VA: $x = -1$

HA: $y = -3$



$f(x) = \frac{x}{x-3}$

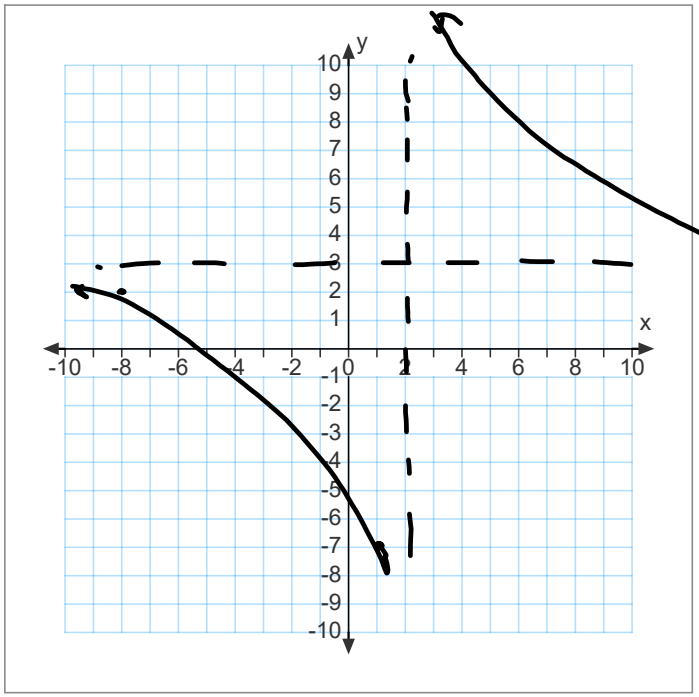
$$\begin{array}{r|l} x-3 & x \\ & x-3 \\ \hline & 3 \end{array}$$

$1 + \frac{3}{x-3}$

$f(x) = \frac{3}{x-3} + 1$

VA: $x = 3$

HA: $y = 1$



DEG NUM = DEG DEN

$y = \frac{3x+4}{x-2}$

HA: $y = 3$

VA: $x = 2$

$$x-2 \;\overline{)\,3x+4}\qquad 3 + \frac{10}{x-2}$$

$3x - 6$

10

$y = \frac{5x+2}{2x+1}$

$2x + 1 = 0$

$2x = -1$

$x = -\frac{1}{2}$

VA: $x = -\frac{1}{2}$

HA: $y = \frac{5}{2}$

DEG NUM < DEG DEN

$f(x) = \frac{x}{x^2-4}$

$y = \frac{1}{x}$

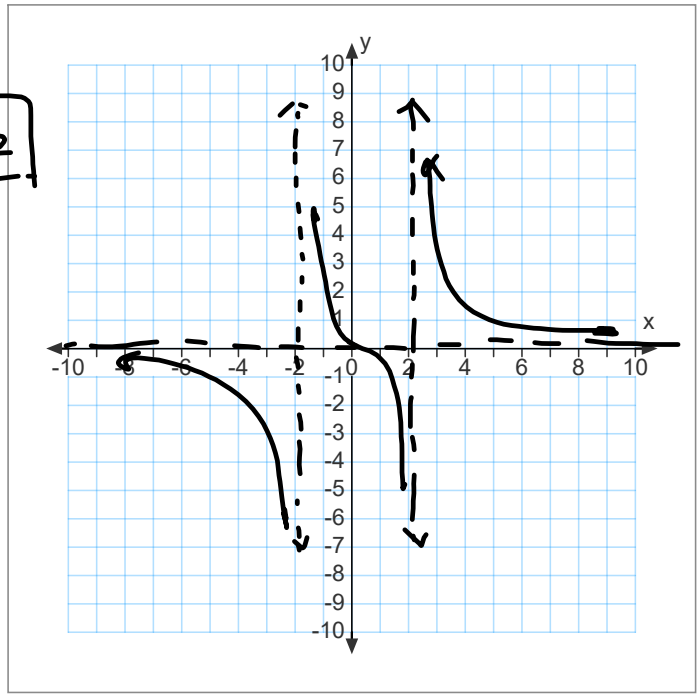
HA: $y = 0$

VA: $x = 2, x = -2$

$x^2 - 4 = 0$

$x^2 = 4$

$x = \pm 2$



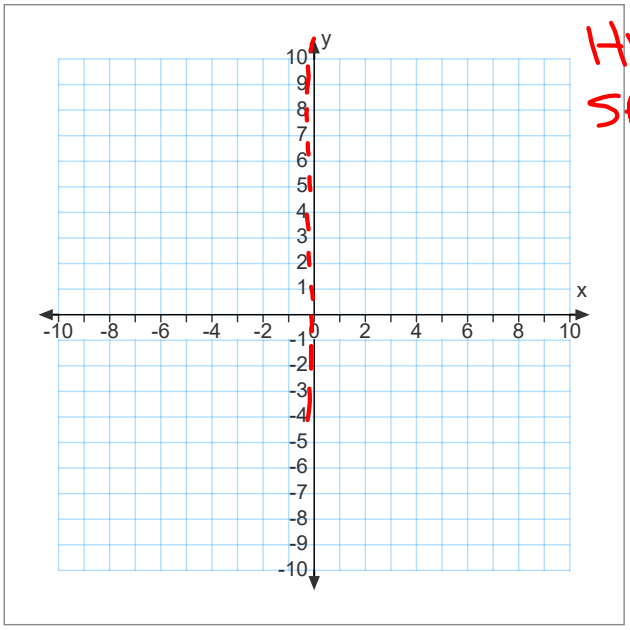
DEG NUM > DEG DEN

$y = \frac{x^2+x+1}{x}$

VA: $x = 0$

HA: NONE

SA: $y = x + 1$



$y = \frac{x^2}{x} + \frac{x}{x} + \frac{1}{x}$

$y = x + 1$ $\quad \neq \frac{1}{x}$

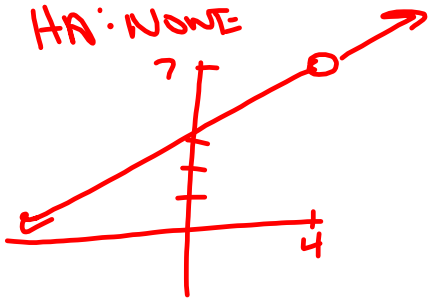
$$y = \frac{x^2 - x - 12}{x - 4}$$

$$y = \frac{(x-4)(x+3)}{x-4}$$

$$y = x + 3$$

VA: NONE

HA: NONE



PP186-187

14-40 EVEN