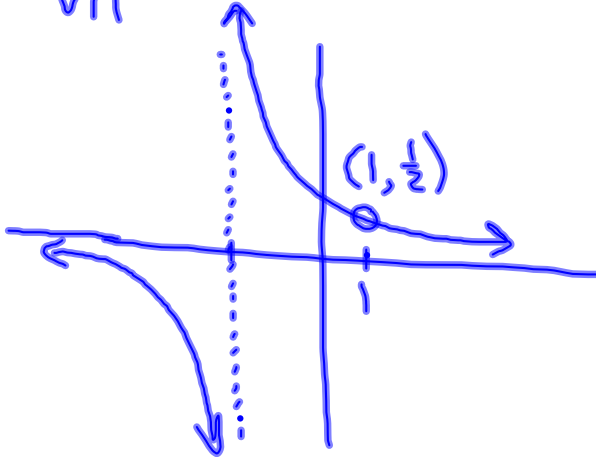
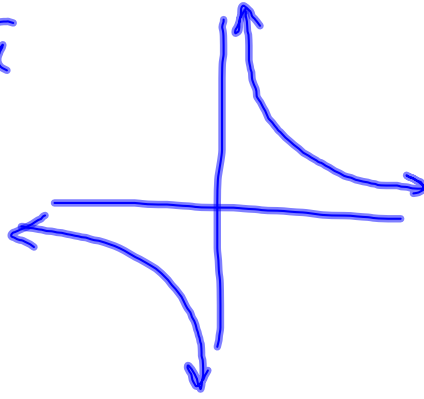


$$y = \frac{2}{x+3}$$

$x \neq -3$
VA



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



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

hole at $x=1$

$$\begin{aligned} \text{Sub } x=1 \\ y &= \frac{2}{1+3} \\ &= \frac{1}{2} \end{aligned}$$

8.

	d	$=$	n	\times	t
\rightarrow (A)	2500		$x+50$		$y-1.667 = \frac{2500}{x}-1.667$
\rightarrow (B)	2500		x		$y = \frac{2500}{x}$
total	X		X		X

let x represent speed of B.

let y " time of B

$$\text{Same} \begin{cases} 2500 = (x+50)(y-1.667) \\ \frac{2500}{x+50} = y-1.667 \quad \textcircled{1} \end{cases}$$

$$\text{Same} \begin{cases} 2500 = xy \\ \frac{2500}{x} = y \quad \textcircled{2} \end{cases}$$

Sub $\textcircled{2}$ into $\textcircled{1}$

$$\frac{2500}{x+50} = \frac{2500}{x} - 1.667$$

8. v2

	d	v	t
(A)	2500	p	$\frac{2500}{p}$
(B)	2500	q	$\frac{2500}{q}$
total	X		0

Let p be the speed of (A)

Let q be the speed of (B)

$$p = q + 50 \quad \frac{2500}{p} = \frac{2500}{q} - 1.667$$

8. v3

	d	v	t
(A)	2500	w	y
(B)	2500	x	z

$$w = x + 50$$

$$y = z - 1.667$$

$$\frac{2500}{w} = y$$

$$\frac{2500}{x} = z$$

$$\begin{aligned}
 2(d) \quad & \frac{3a^3}{2b} \cdot \frac{10b^3}{9a^2} \\
 & = \frac{\overset{1}{\cancel{3}} \cdot \overset{5}{\cancel{10}} \cdot \cancel{a} \cdot \cancel{a} \cdot \cancel{a} \cdot \cancel{b} \cdot \cancel{b} \cdot \cancel{b}}{\underset{1}{\cancel{2}} \cdot \underset{3}{\cancel{9}} \cdot \cancel{a} \cdot \cancel{a}} \\
 & = \frac{5ab^2}{3}
 \end{aligned}$$

$$\begin{aligned}
 2(f) \quad & 3 - \frac{5x-5}{5} \\
 & = 3 - \frac{\overset{1}{\cancel{5}}(x-1)}{\cancel{5}_1} \\
 & = 3 - (x-1) \\
 & = 3 - x + 1 \\
 & = 4 - x
 \end{aligned}$$

$$9. \frac{3}{x^2-x-2} = \frac{3}{(x+1)(x-2)}$$

$$= \frac{a}{x+1} + \frac{b}{x-2}$$

want a, b, such that

$$\left(\frac{a}{x+1} + \frac{b}{x-2} = \frac{3}{(x+1)(x-2)} \right)$$

$$= \frac{a(x-2)}{(x+1)(x-2)} + \frac{b(x+1)}{(x+1)(x-2)}$$

$$= \frac{ax-2a+bx+b}{(x+1)(x-2)}$$

$$= \frac{(a+b)x-2a+b}{(x+1)(x-2)}$$

for $(a+b)x-2a+b=3+0x$

$$a+b=0 \quad (\text{no } x\text{-term on RHS})$$

$$a=-b$$

$$-2a+b=3$$

$$-2(-b)+b=3$$

$$2b+b=3$$

$$3b=3$$

$$b=1$$

$$\rightarrow a=-1$$

$$\therefore \frac{-1}{x+1} + \frac{1}{x-2} = \frac{3}{(x+1)(x-2)}$$

$$\therefore \text{a solution is } \frac{-1}{x+1} + \frac{1}{x-2}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

7.

	d	n	t
0 → T	400	x	$\frac{400}{x}$
T → 0	400	x+10	$\frac{400}{x+10}$
total			7.3

$$\frac{400}{x} + \frac{400}{x+10} = 7.3$$

$$\frac{400(x+10)}{x(x+10)} + \frac{400x}{x(x+10)} = 7.3$$

$$\frac{800x+400}{x(x+10)} = 7.3$$

$$800x+400 = 7.3(x^2+10x)$$

$$0 =$$

