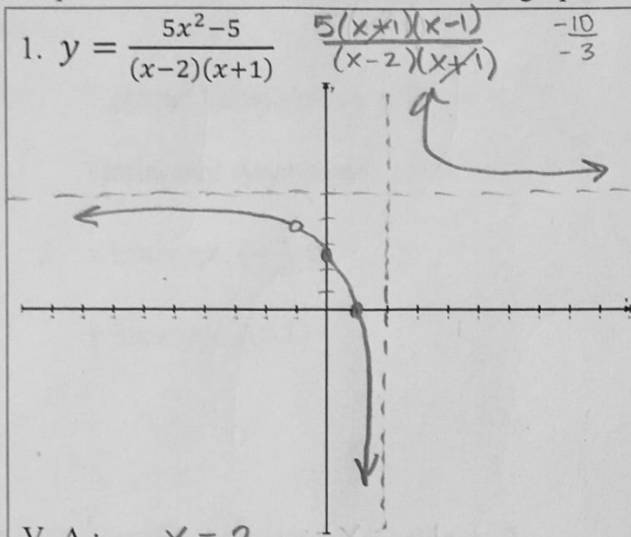
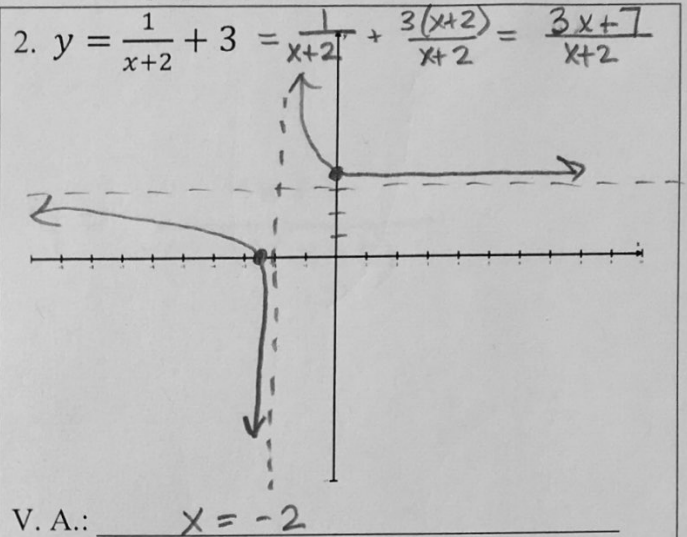


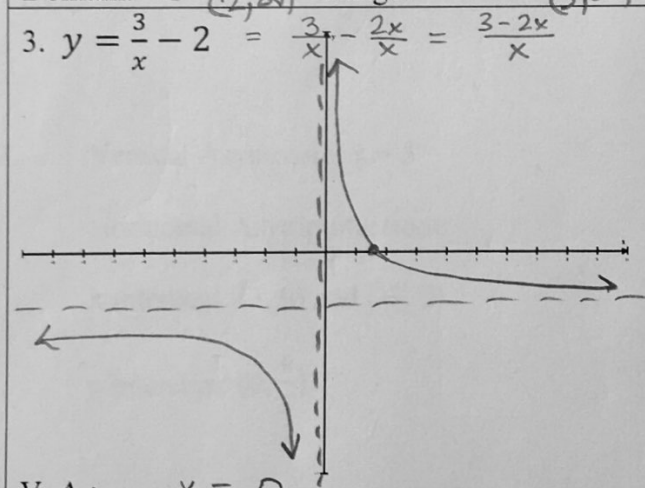
Complete the information and sketch the graphs. Do not use a graphing calculator, other than checking.



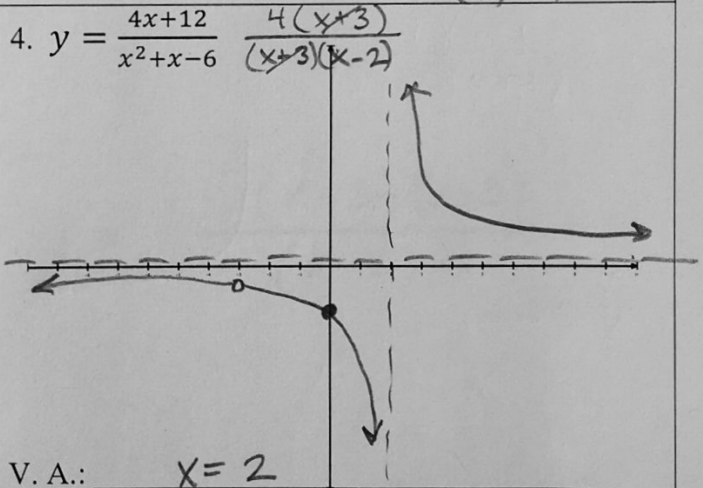
V. A.: $x = 2$
 H. A.: $y = 5$ Holes: $(-1, 10/3)$
 y-int.: $(0, 5/2)$
 x-int.: $(1, 0)$
 Domain: $(-\infty, -1)$ $(-1, 2)$ $(2, \infty)$ Range: $(-\infty, 10/3)$ $(10/3, 5)$ $(5, \infty)$



V. A.: $x = -2$
 H. A.: $y = 3$ Holes: none
 y-int.: $(0, 7/2)$
 x-int.: $(-7/3, 0)$
 Domain: $(-\infty, -2)$ $(-2, \infty)$ Range: $(-\infty, 3)$ $(3, \infty)$



V. A.: $x = 0$
 H. A.: $y = -2$ Holes: none
 y-int.: none
 x-int.: $(3/2, 0)$
 Domain: $(-\infty, 0)$ $(0, \infty)$ Range: $(-\infty, -2)$ $(-2, \infty)$



V. A.: $x = 2$
 H. A.: $y = 0$ Holes: $(-3, -4/5)$
 y-int.: $(0, -2)$
 x-int.: none
 Domain: $(-\infty, -3)$ $(-3, 2)$ $(2, \infty)$ Range: $(-\infty, -4/5)$ $(-4/5, 0)$ $(0, \infty)$

Write a function that matches the descriptions given below. There could be more than one correct answer for each.

5. Vertical Asymptote: $x = 1$; $x = -1$

Horizontal Asymptote: $y = 0$

x intercept: $(-\frac{1}{4}, 0)$

y intercept: $(0, -1)$

$$y = \frac{4x + 1}{(x-1)(x+1)}$$

6. Vertical Asymptote: $x = 2$; $x = -2$

Horizontal Asymptote: $y = 0$

x intercept: $(0, 0)$

y intercept: $(0, 0)$

$$y = \frac{x}{(x+2)(x-2)}$$

7. Vertical Asymptote: $x = 5$

Horizontal Asymptote: none

x intercept: $(3, 0)$ and $(-3, 0)$

y intercept: $(0, \frac{9}{5})$

$$y = \frac{(x+3)(x-3)}{(x-5)}$$