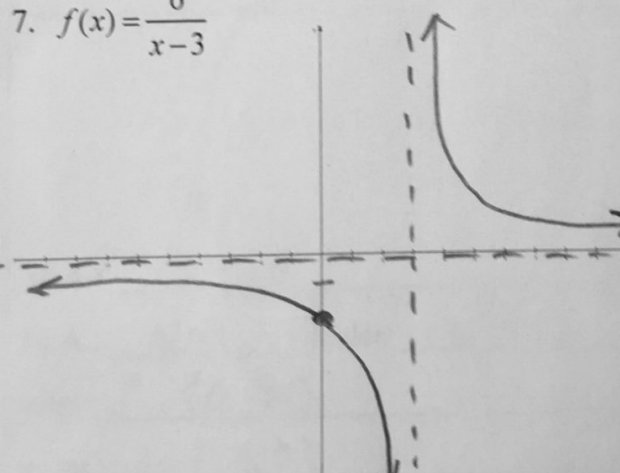
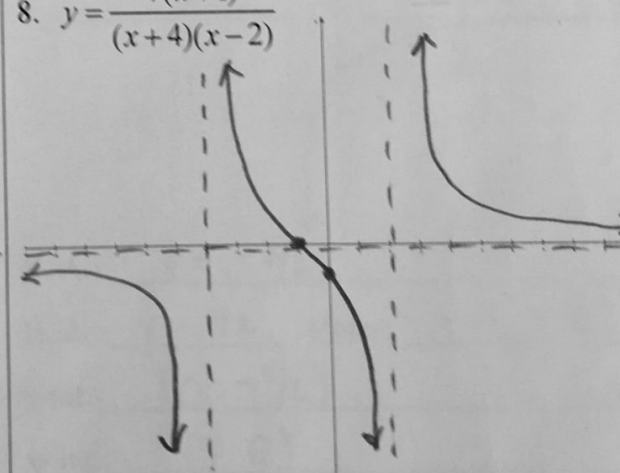
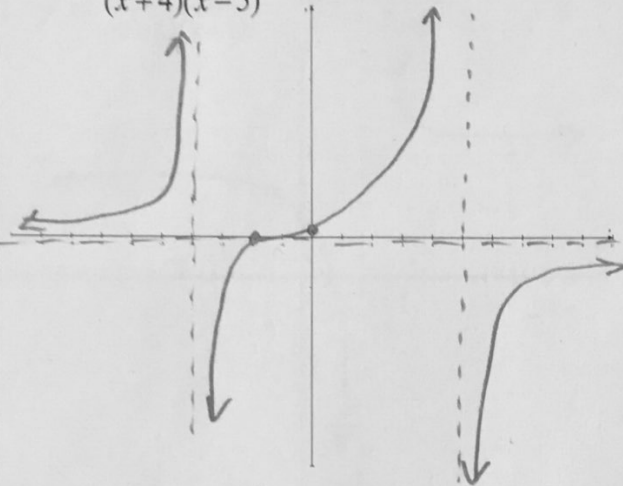


Determine the equations of the vertical and horizontal asymptotes (if one exists) and find the intercepts of the graphs:

<p>1. $\frac{2x}{x+4}$</p> <p>V. A.: <u>$x = -4$</u></p> <p>H. A.: <u>$y = 2$</u> Holes: <u>none</u></p> <p>y-int.: <u>$(0, 0)$</u></p> <p>x-int.: <u>$(0, 0)$</u></p>	<p>2. $\frac{5(x-1)}{(x+3)(x-2)}$ $\frac{-5}{-6}$</p> <p>V. A.: <u>$x = -3$ $x = 2$</u></p> <p>H. A.: <u>$y = 0$</u> Holes: <u>none</u></p> <p>y-int.: <u>$(0, 5/6)$</u></p> <p>x-int.: <u>$(1, 0)$</u></p>
<p>3. $\frac{4x^3}{(x+7)(2x-5)}$</p> <p>V. A.: <u>$x = -7$ $x = 5/2$</u></p> <p>H. A.: <u>none</u> Holes: <u>none</u></p> <p>y-int.: <u>$(0, 0)$</u></p> <p>x-int.: <u>$(0, 0)$</u></p>	<p>4. $\frac{6(x-5)(x-2)}{(x+4)(x-1)}$ $\frac{60}{-4}$</p> <p>V. A.: <u>$x = -4$ $x = 1$</u></p> <p>H. A.: <u>$y = 6$</u> Holes: <u>none</u></p> <p>y-int.: <u>$(0, -15)$</u></p> <p>x-int.: <u>$(5, 0)$ $(2, 0)$</u></p>
<p>5. $\frac{x^2-7x+10}{x^2-25}$ $\frac{(x-5)(x-2)}{(x+5)(x-5)}$</p> <p>V. A.: <u>$x = -5$</u></p> <p>H. A.: <u>$y = 1$</u> Holes: <u>@ $x = 5$</u></p> <p>y-int.: <u>$(0, -2/5)$</u></p> <p>x-int.: <u>$(2, 0)$</u></p>	<p>6. $\frac{3x^2-20x-7}{2x^2-13x-7}$ $\frac{(3x+1)(x-7)}{(2x+1)(x-7)}$</p> <p>V. A.: <u>$x = -1/2$</u></p> <p>H. A.: <u>$y = 3/2$</u> Holes: <u>@ $x = 7$</u></p> <p>y-int.: <u>$(0, 1)$</u></p> <p>x-int.: <u>$(-4/3, 0)$</u></p>
<p>7. $f(x) = \frac{6}{x-3}$</p>  <p>V. A.: <u>$x = 3$</u></p> <p>H. A.: <u>$y = 0$</u> Holes: <u>none</u></p> <p>y-int.: <u>$(0, -2)$</u></p> <p>x-int.: <u>none</u></p> <p>Domain: <u>$(-\infty, 3) \cup (3, \infty)$</u> Range: <u>$(-\infty, 0) \cup (0, \infty)$</u></p>	<p>8. $y = \frac{7(x+1)}{(x+4)(x-2)}$</p>  <p>V. A.: <u>$x = -4$ $x = 2$</u></p> <p>H. A.: <u>$y = 0$</u> Holes: <u>none</u></p> <p>y-int.: <u>$(0, -7/8)$</u></p> <p>x-int.: <u>$(-1, 0)$</u></p> <p>Domain: <u>$(-\infty, -4) \cup (-4, 2) \cup (2, \infty)$</u> Range: <u>$(-\infty, 0) \cup (0, \infty)$</u></p>

Determine the equations of the vertical and horizontal asymptotes (if one exists). Find the x-intercepts and y-intercepts of the graphs. Sketch the graphs.

9. $y = \frac{-3(x+2)}{(x+4)(x-5)}$



V. A.: $x = -4, x = 5$

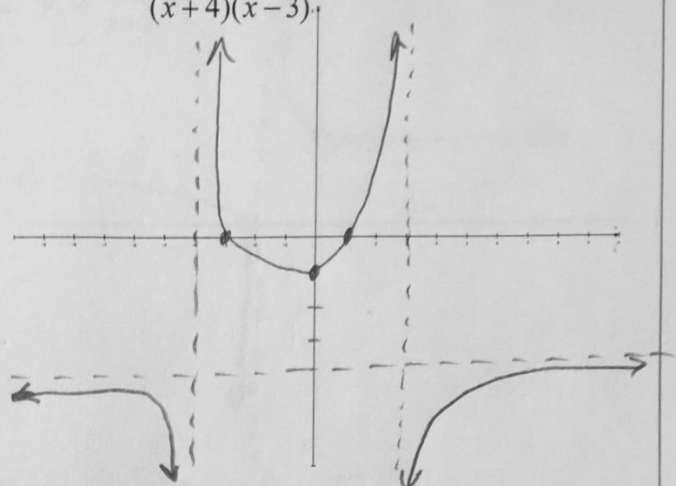
H. A.: $y = 0$ Holes: none

y-int.: $(0, 3/10)$

x-int.: $(-2, 0)$

Domain: $(-\infty, -4) \cup (-4, 5) \cup (5, \infty)$ Range: $(-\infty, 0) \cup (0, \infty)$

10. $y = \frac{-4(x+3)(x-1)}{(x+4)(x-3)}$



V. A.: $x = -4, x = 3$

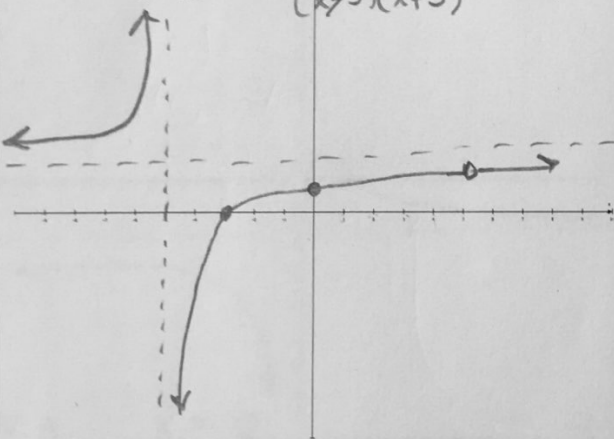
H. A.: $y = -4$ Holes: none

y-int.: $(0, -1)$

x-int.: $(-3, 0), (1, 0)$

Domain: $(-\infty, -4) \cup (-4, 3) \cup (3, \infty)$ Range: $(-\infty, -4) \cup (-1, \infty)$

11. $y = \frac{x^2-2x-15}{x^2-25} = \frac{(x-5)(x+3)}{(x-5)(x+5)}$ $\frac{8}{10}$



V. A.: $x = -5$

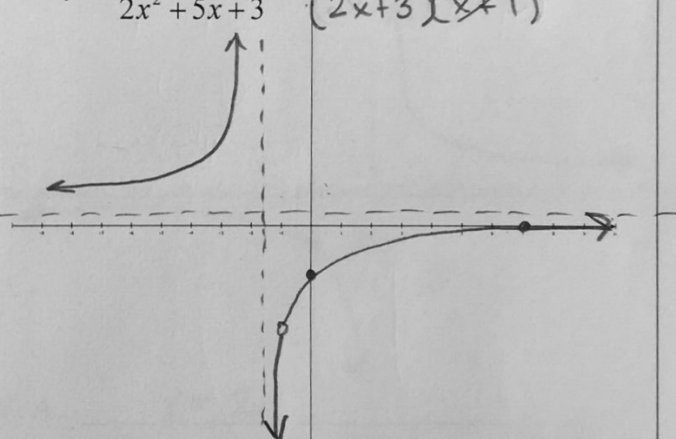
H. A.: $y = 1$ Holes: $(5, 4/5)$

y-int.: $(0, 3/5)$

x-int.: $(-3, 0)$

Domain: $(-\infty, -5) \cup (-5, 5) \cup (5, \infty)$ Range: $(-\infty, 4/5) \cup (4/5, 1) \cup (1, \infty)$

12. $y = \frac{x^2-6x-7}{2x^2+5x+3} = \frac{(x-7)(x+1)}{(2x+3)(x+1)}$ $-\frac{9}{1}$



V. A.: $x = -3/2$

H. A.: $y = 1/2$ Holes: $(-1, -8)$

y-int.: $(0, -7/3)$

x-int.: $(7, 0)$

Domain: $(-\infty, -3/2) \cup (-3/2, -1) \cup (-1, \infty)$ Range: $(-\infty, -8) \cup (-8, 1/2) \cup (1/2, \infty)$