

Identify any vertical, horizontal, and/or slant asymptotes for each of the following functions. Then create a sketch of the graph.

1)  $f(x) = \frac{x+5}{x-2}$

VA:  $x = 2$  hole(s): —

HA:  $y = 1$

x-int:  $(-5, 0)$  y-int:  $(0, -2.5)$

2)  $f(x) = \frac{-4x+8}{2x+3}$

VA:  $x = -3/2$  hole(s): —

HA:  $y = -2$

x-int:  $(2, 0)$  y-int:  $(0, 8/3)$

3)  $f(x) = \frac{3x+6}{2x-1}$

VA:  $x = 1/2$  hole(s): —

HA:  $y = 3/2$

x-int:  $(-2, 0)$  y-int:  $(0, -6)$

4)  $f(x) = \frac{(x-2)(x+3)}{(x-2)(x-4)}$

VA:  $x = 4$  hole(s):  $(2, -5/2)$

HA:  $y = 1$

x-int:  $(-3, 0)$  y-int:  $(0, -3/4)$

5)  $f(x) = \frac{(6-x)(x+3)}{(x-2)(x+3)}$

VA:  $x = 2$  hole(s):  $(-3, -9/5)$

HA:  $y = -1$

x-int:  $(6, 0)$  y-int:  $(0, -3)$

6)  $f(x) = \frac{x^2+x-20}{x-4}$

VA: — hole(s):  $(4, 9)$

HA: —

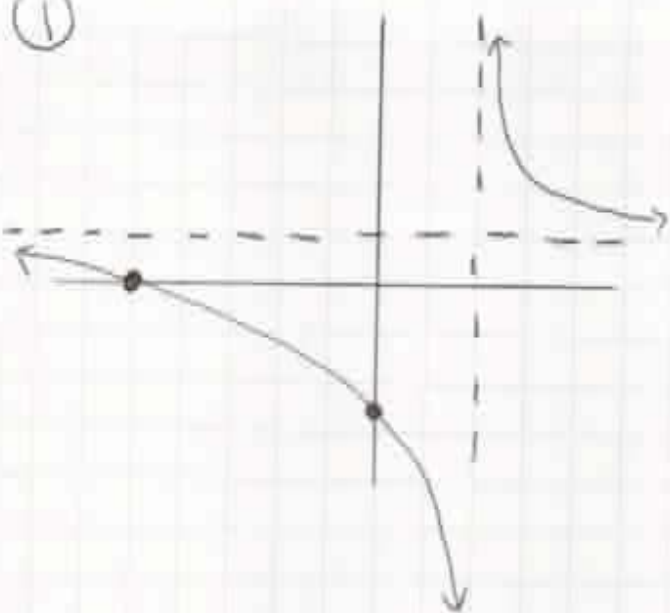
x-int:  $(-5, 0)$  y-int:  $(0, 5)$

7)  $f(x) = \frac{x^2-3x-10}{x-5}$

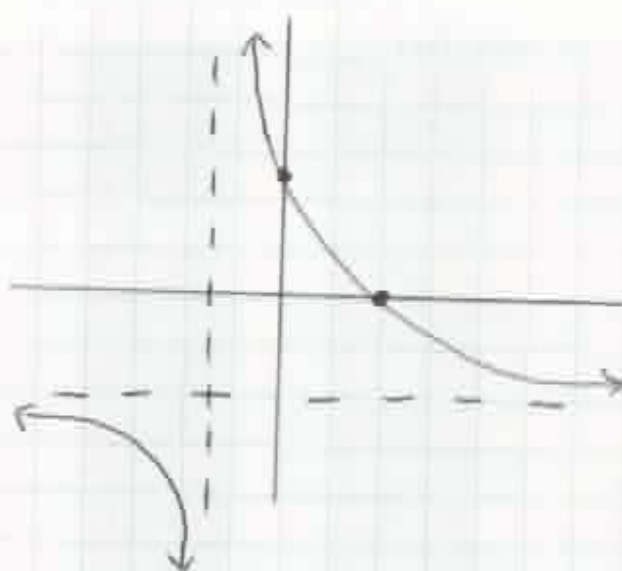
VA: — hole(s):  $(5, 7)$  HA: —

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

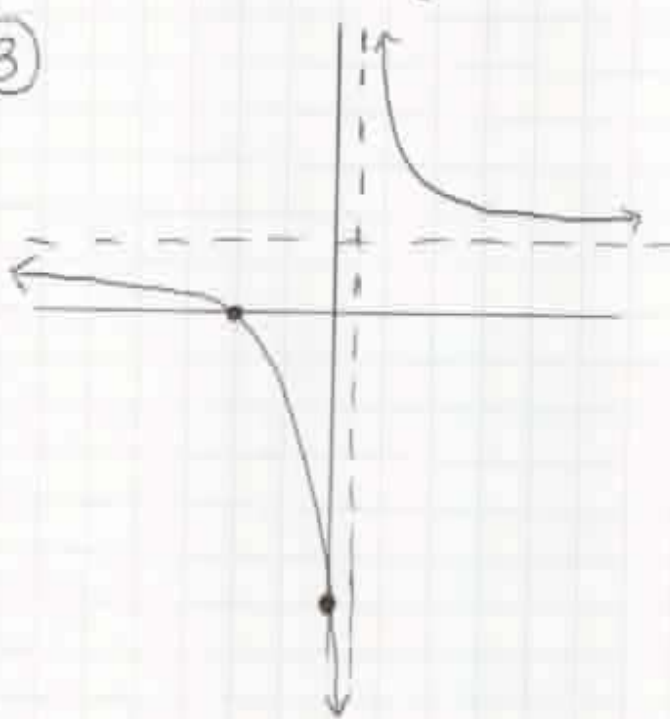
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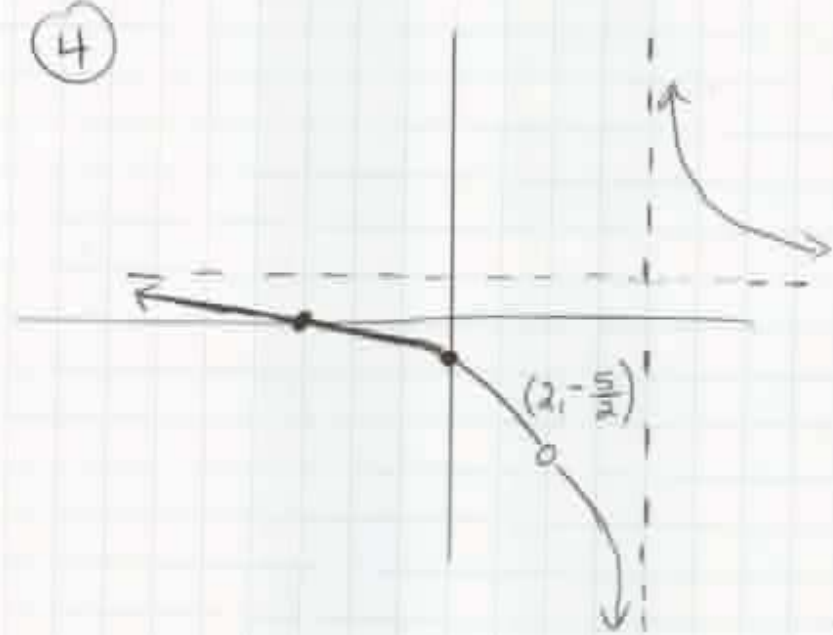
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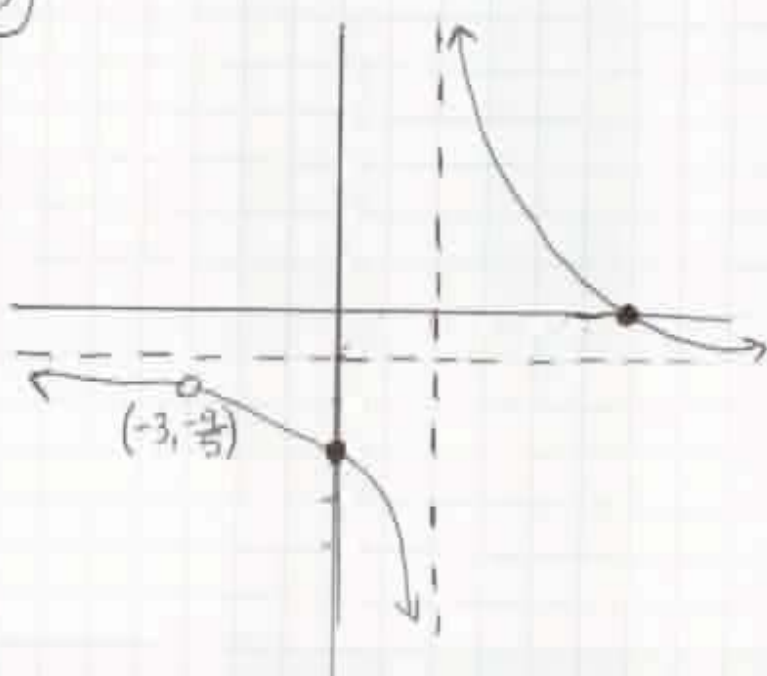
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