

P. 302 60) a) $\left\{-2, -\frac{3}{4} \pm \frac{\sqrt{41}}{4}\right\}$ b) $f(x) = (x+2)\left(x + \frac{3}{4} + \frac{\sqrt{41}}{4}\right)\left(x + \frac{3}{4} - \frac{\sqrt{41}}{4}\right)$

Add to tonight's HW: pg 302: 40

P. 318-319

2. a. x-int: (0, 0)
b. y-int: (0, 0)
c. va: $x = -1/2$, $x = 3$
d. ha: $y = 0$
g. yes

8) va: $x = -10$
12) va: $x = 0$, $x = -5$, $x = 2$
16) ha: $y = 0$
20) ha: $y = 4$

Ditto 3.1

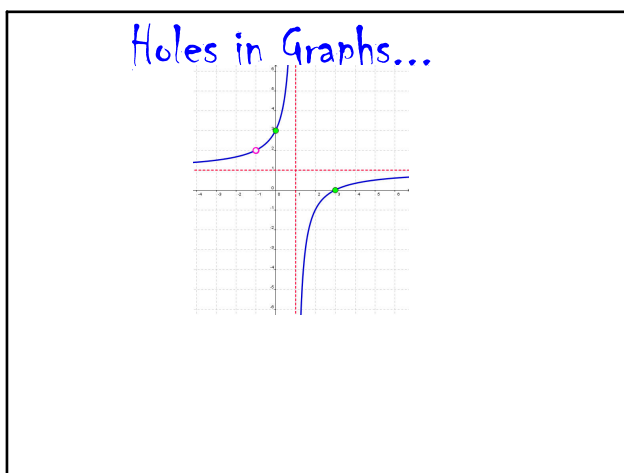
1. a. x-ints: (2/3, 0)
b. y-int: (0, -2/3)
c. va: $x = -3$
d. ha: $y = 3$
g. doesn't cross

Oct 21-8:02 PM

$$2x^2 + 3x - 4 : 0$$

$$x = \frac{-3 \pm \sqrt{(3)^2 - 4(2)(-4)}}{2(2)}$$

Oct 29-10:07 AM



There will be a **hole** in the graph whenever there is a COMMON FACTOR in the numerator and denominator that divides out.

Each Hole cancels out a vertical asymptote at the x-value.

Find the coordinates of the hole in a graph.

1. $y = \frac{x-3}{x^2-9} = \frac{\cancel{(x-3)}}{(x-3)(x+3)}$
 $y = \frac{1}{(x+3)}$ when $x = 3$
 x-coor. $x-3=0$
 $x=3$
 y-coor. $y = \frac{1}{3+3} = \frac{1}{6}$
Hole @ (3, 1/6)

2. $y = \frac{x^2+4x}{x^3-9x} = \frac{\cancel{x}(x+4)}{\cancel{x}(x-3)(x+3)}$
 $y = \frac{(x+4)}{(x-3)(x+3)}$ when $x=0$
 x-coor. $x=0$
 y-coor. $y = \frac{0+4}{(0-3)(0+3)} = \frac{4}{-9}$
Hole @ (0, -4/9)

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3. $y = \frac{x-3}{x^2-2x-3} = \frac{\cancel{(x-3)}}{(x-3)(x+1)}$
 $y = \frac{1}{(x+1)}$ when $x = 3$
 $x-3=0$
 $x=3$
 $y = \frac{1}{3+1} = \frac{1}{4}$
Hole @ (3, 1/4)

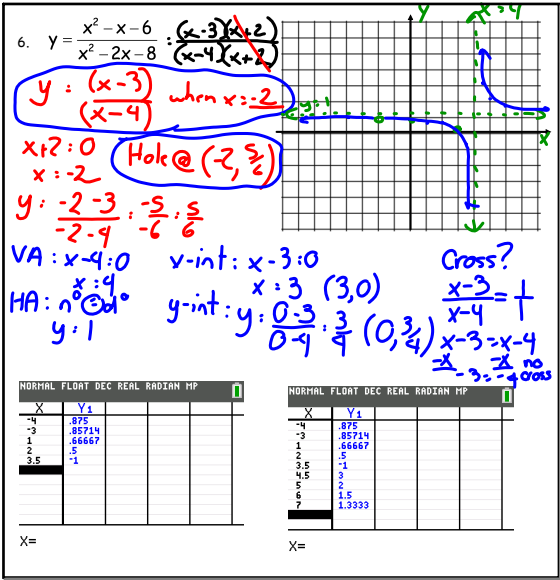
4. $y = \frac{2x^2-3x+1}{2x^2+3x-2}$

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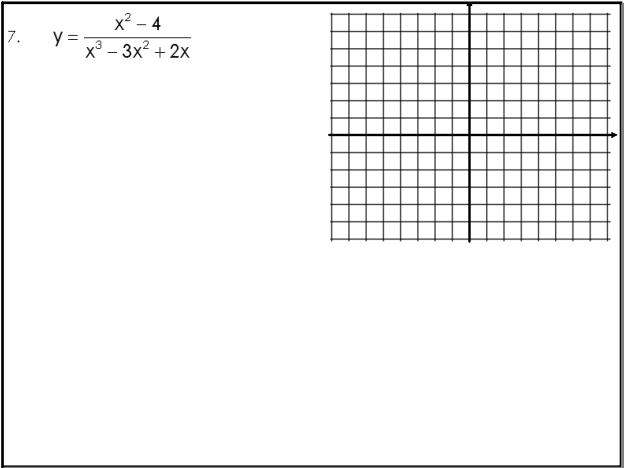
Sketch a graph for each of the following. Include the x & y-intercepts, v.a., h.a., and hole(s).

5. $y = \frac{x^2-x-12}{x-4} = \frac{(x-4)(x+3)}{\cancel{(x-4)}}$
 $y = (x+3)$ when $x = 4$
 $x-4=0$ $y = 4+3=7$
 $x=4$ **Hole @ (4, 7)**
 VA: none x -int: $x=3, 0$
 HA: none y -int: $y = 0+3=3$
 (-3, 0)
 (0, 3)

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Oct 21-8:23 PM

Homework: Ditto 3.1 # 3, 4, 6
ON GRAPH PAPER
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Nov 1-3:40 PM