

GRAPHING RATIONAL FUNCTIONS REVIEW

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

Hole @ $x=3$ $(3, \frac{5}{16})$
 Vertical Asy @ $x=-1$ [SAME DIRE]
 Zero @ $x=-2$ $(-2, 0)$
 y-int: $\frac{(2)}{(1)} = 2$ $(0, 2)$
 HA: $y=0$

② $f(x) = \frac{1}{x+3}$

NO HOLE
 V.A @ $x=-3$ [OPPOSITE]
 NO ZERO
 y-int $(0, \frac{1}{3})$
 H.A $y=0$

SHIFT $\frac{1}{x}$ left 3 UNITS

③ $f(x) = \frac{2}{x^2+3}$

NO HOLE
 V.A: NONE
 NO ZERO
 y-int $(0, \frac{2}{3})$
 H.A $y=0$

④ $f(x) = \frac{(x-2)(x-4)}{(x-2)(x+1)(x-3)} = \frac{x-4}{(x+1)(x-3)}$

Hole @ $x=2$ $(2, \frac{2}{3})$
 V.A @ $x=-1$ [SAME]
 $x=3$ each opp d:
 Zero @ $x=4$ $(4, 0)$
 y-int $(0, \frac{4}{3})$
 H.A: $y=0$

⑤ $f(x) = \frac{(2x-1)(x+4)}{(x-3)(x+4)}$

Hole @ $x=-4$ $(-4, \frac{3}{14})$
 V.A @ $x=3$ [OPPOSITE]
 Zero @ $x=\frac{1}{2}$
 y-int $(0, \frac{1}{3})$
 H.A: $N: 2x^2$ $D: x^2$ $y=2$

$\frac{-\frac{1}{2} - 1}{-7} = \frac{-\frac{3}{2}}{-7} = \frac{3}{14}$

⑥ $f(x) = \frac{(x-1)^2(x+3)}{(x-1)}$

$= x^2 + 2x - 3$

$= x^2 + 2x + 1 - 1 - 3$

$= x^2 + 2x + 1 - 4$

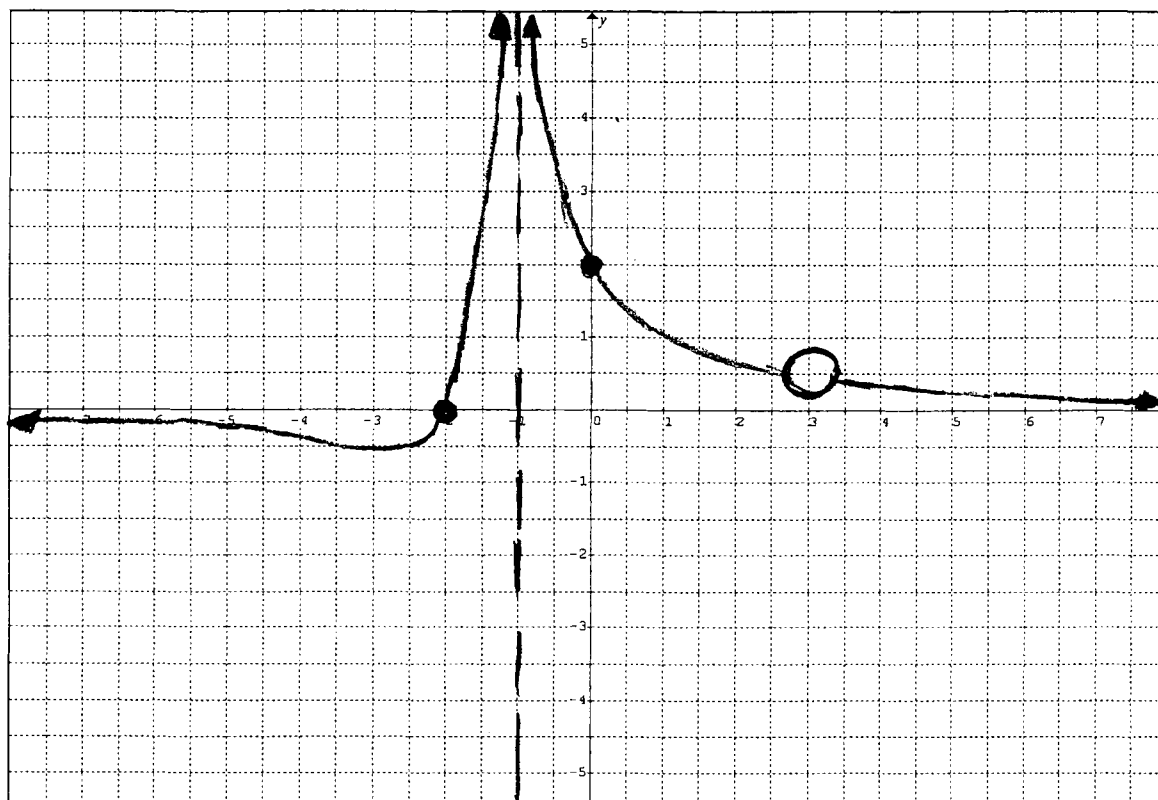
$= (x+1)^2 - 4$

Vertex $(-1, -4)$

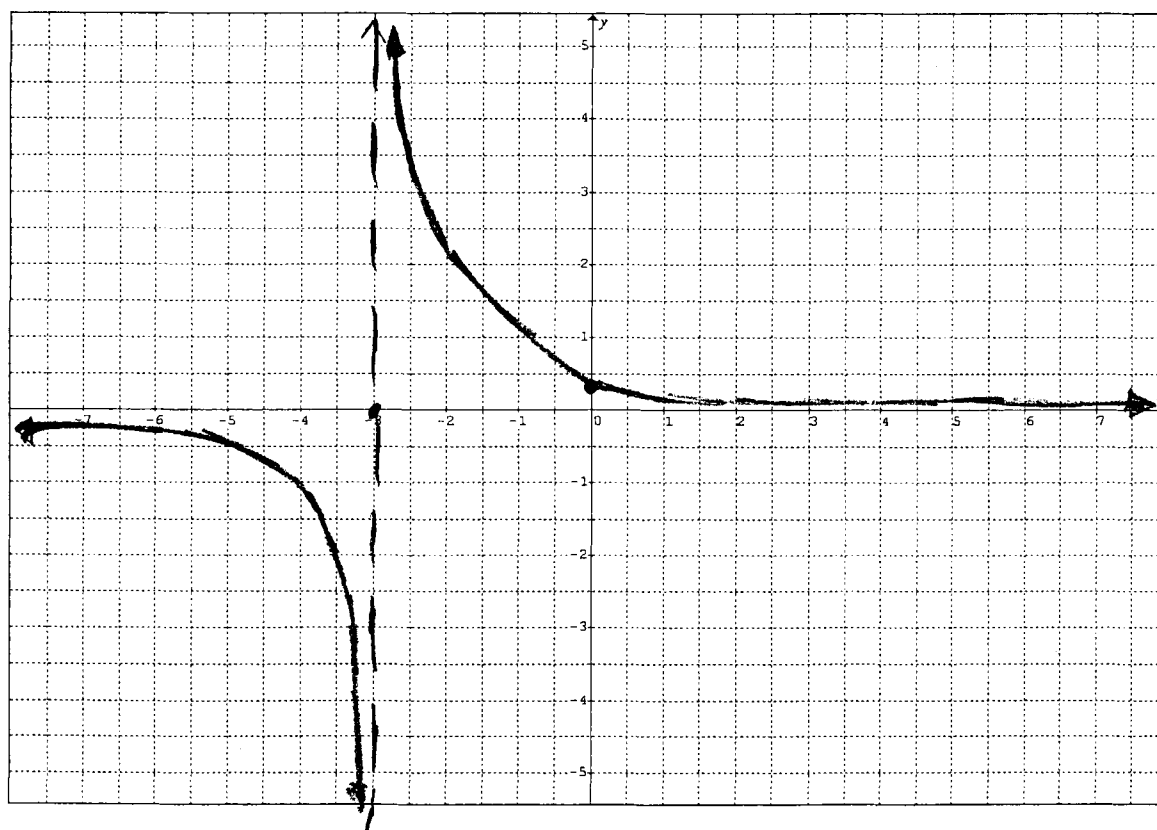
hole $(1, 0)$

Advanced Algebra 2: CH7B Rational Expressions, Equations, and Functions
 Graphing Rational Functions (TYPE II) *Review*

1

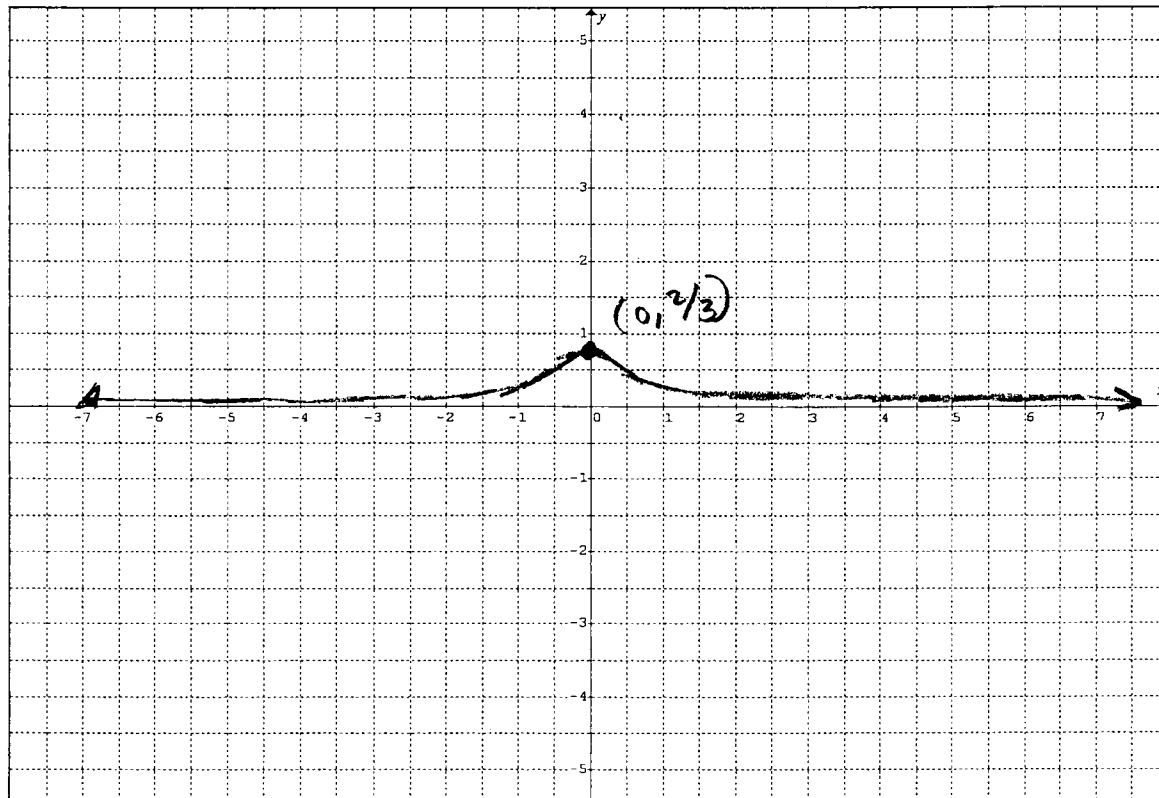


2

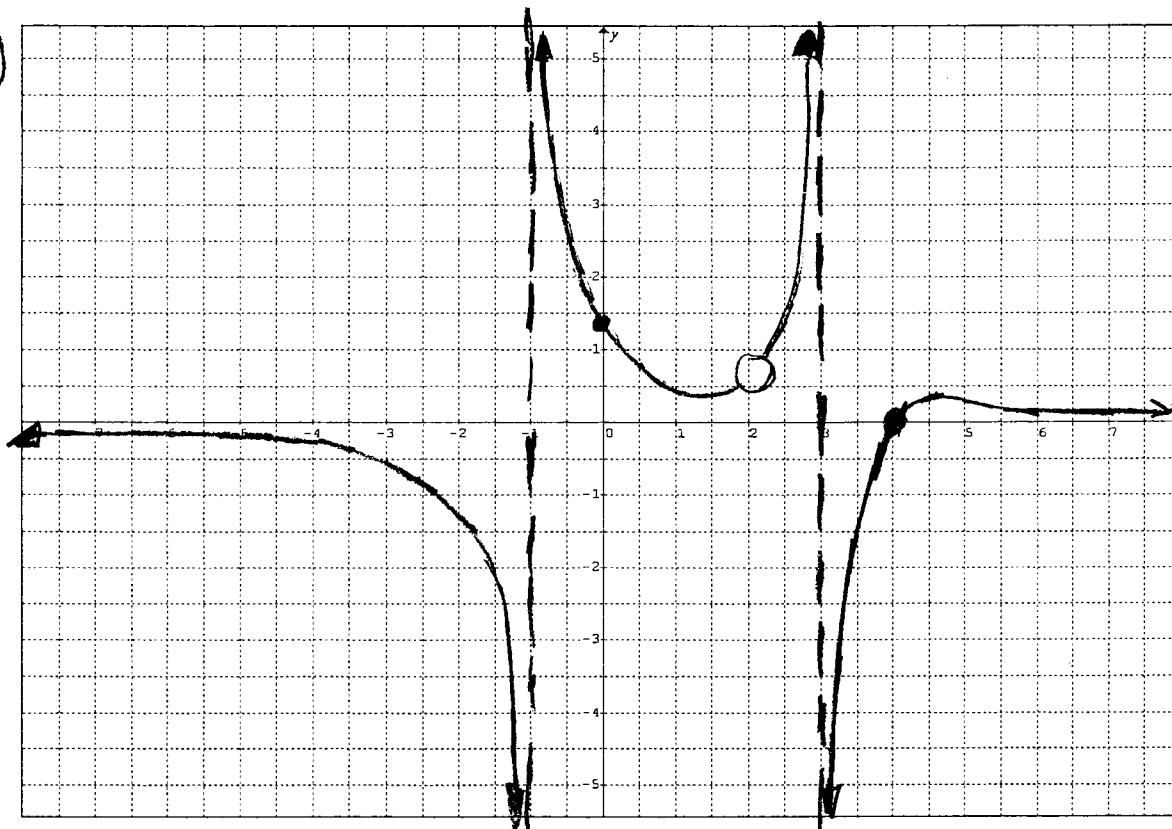


Advanced Algebra 2: CH7B Rational Expressions, Equations, and Functions
Graphing Rational Functions (~~TYPE A~~)

③

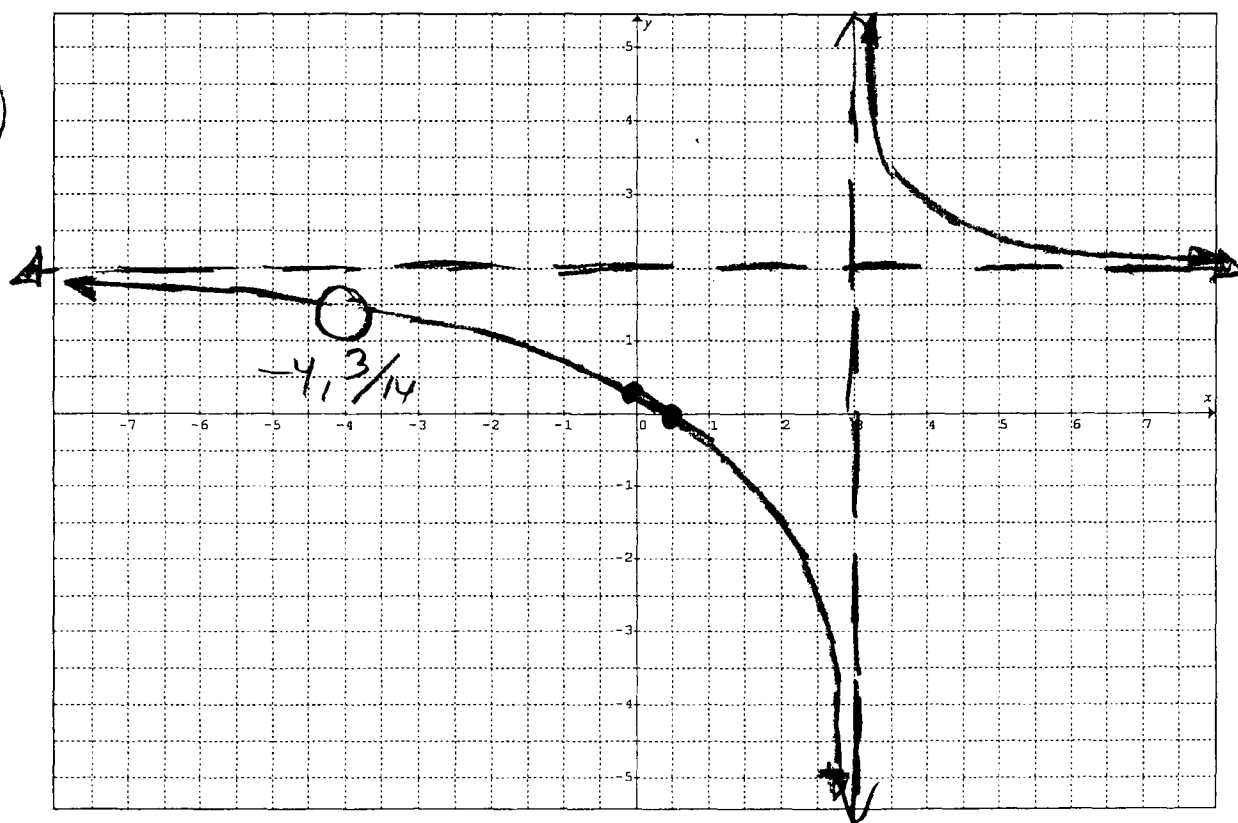


④



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Graphing Rational Functions (~~TYPE 4~~)

5



6

