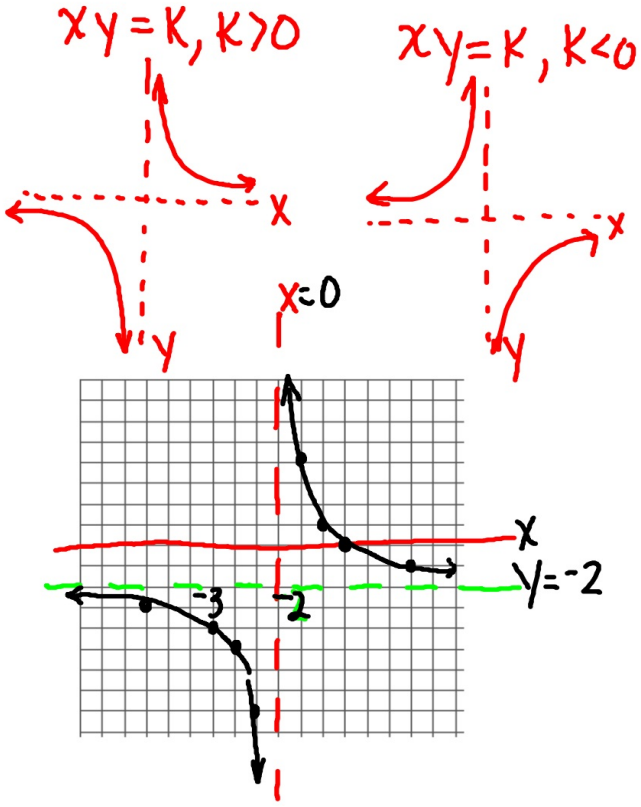
9.2 Graphing Inverse Variation

$$y = \frac{k}{x},\ k \neq 0,\ x \neq 0$$

$xy = K$



1 $y = \frac{6}{x} - 2$

x	y
3	0
2	1
1	4
6	-1

x	y
-3	-4
-2	-5
-1	-8
-6	-3

9.4 Simplifying, Multiplying, and Dividing Rational Expressions

std. 3.0 → 1.0

2 $$\frac{3x^{2n} + x^n - 2}{15x^n - 10} = \frac{(3x^n - 2)(x^n + 1)}{5(3x^n - 2)} = \frac{x^n + 1}{5}$$

3 $$\frac{144}{4x^n y^n} \div \frac{54y^{3n}}{3x^{3n} y^n} = \frac{144}{4x^n y^n} \cdot \frac{3x^{3n} y^n}{54y^{3n}}$$

$$= \frac{36}{x^n y^n} \cdot \frac{x^{3n}}{18y^{2n}} = \frac{2x^{2n}}{y^{3n}}$$

4. $\dfrac{6x^2-5x-1}{49-x^2} \cdot \dfrac{xy+4x-7y-28}{48x+8}$

$x(y+4)-7(y+4)$

$\dfrac{(6x+1)(x-1)}{(7-x)(7+x)} \cdot \dfrac{(x-7)(y+4)}{8(6x+1)} = \dfrac{-1}{} = \dfrac{-(x-1)(y+4)}{8(7+x)}$

5. $\dfrac{2x^3-16}{15x^2-7x-2} \div \dfrac{5x^2-10x}{30x-20}$

$2(x^3-8)$

$2\dfrac{(x-2)(x^2+2x+4)}{(3x-2)(5x+1)} \cdot \dfrac{2}{10}\dfrac{(3x-2)}{5x(x-2)} = \dfrac{4(x^2+2x+4)}{x(5x+1)}$