$$n = \frac{k}{s}$$

$$54 = \frac{k}{1.92}$$

$$103.68 = k$$

$$n = \frac{103.68}{s}$$

$$= \frac{103.68}{3.87}$$

26

39) $P = \frac{k}{A}$ $P = \frac{172}{A}$

$.43 = \frac{k}{400}$ $P = \frac{172}{60}$

$172 = k$ 2.87

$$Z = kxy$$

$$-36 = k(-3)(-4)$$

$$-36 = 12k$$

$$-3 = k$$

29) $z = kxy$

$75 = k(5)(-3)$

$-5 = k$

$z = -5(-4)(5)$

9.) $\frac{8y}{8} = \frac{x}{8}$

$y = \frac{1}{8}x$

25.) $z = kxy$

$12 = k(8)(6)$

$\frac{12}{48} = k$

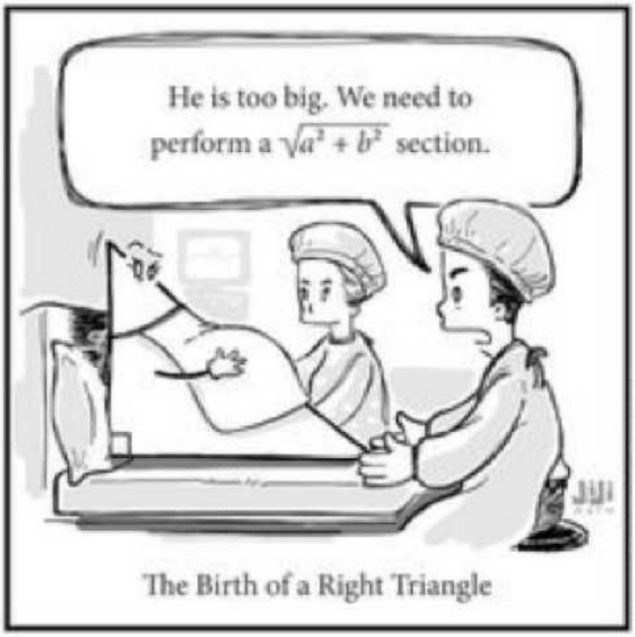
$\frac{1}{4} = k$

$z = \frac{1}{4}(-4)(5) = -5$

4.) $f(x) = \dfrac{(x+1)(x-4)}{x(x-4)(x-2)}$

33. $w = \frac{kxz}{y}$

Ch 5 Review


He is too big. We need to perform a $\sqrt{a^2 + b^2}$ section.
The Birth of a Right Triangle

ex: Solve.

$x \neq 2, 4$

$$\frac{x}{x-2} = \frac{x^2-8}{x^2-6x+8} - \frac{1}{x-4}$$

$$0 = \frac{x^2-8}{(x-4)(x-2)} - \frac{1(x-2)}{x-4(x-2)} \quad \frac{x(x-4)}{x-2(x-4)}$$

$$0 = \frac{x^2-8-1(x-2)-x(x-4)}{(x-4)(x-2)}$$

$$0 = \frac{3x-6}{(x-4)(x-2)}$$

$$0 = \frac{3(x-2)}{(x-4)(x-2)} \qquad 0 = \frac{3}{x-4} \qquad \emptyset$$

ex: Perform the indicated operation.

$$\frac{x^2+3x}{8x^2+16x} \div \frac{3x^2+x-24}{4x^3+32}$$

$$\frac{x(x+3)}{8x(x+2)} \cdot \frac{4(x+2)(x^2-2x+4)}{(3x-8)(x+3)}$$

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

ex: Perform the indicated operation.

$$\frac{5x^{-1}-2y^{-2}}{(3x)^{-2}+4y}$$

$$\frac{9x^2y^2\frac{5}{x}-\frac{2}{y^2}\cdot 9x^2y^2}{\frac{9x^2}{9x^2}+\frac{4y}{1}\cdot 9x^2y^2}=\frac{45xy^2-18x^2}{y^2+36x^2y^3}$$

$$\frac{9x(5y^2-2x)}{y^2(1+36x^2y)}$$

ex: Solve.

$$\frac{x}{x^2-9}+2=\frac{x^2-6x}{x^2-9}$$

ex: Find the LCM.

$\frac{1}{5} + \frac{1}{10}$

$5y^2 - 125$ $\qquad$ $10y^2 + 100y + 250$

$5(y-5)(y+5)$ $\qquad$ $10(y+5)(y+5)$

$2 \cdot 5$

$2 \cdot 5(y+5)(y+5)(y-5)$

$2 \cdot 5(y+5)^2(y-5)$

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ex: Perform the indicated operation.

$$\frac{x+5}{x^2-9}-\frac{4}{2x-6}$$

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

$$-\frac{x+1}{(x-3)(x+3)}$$

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

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

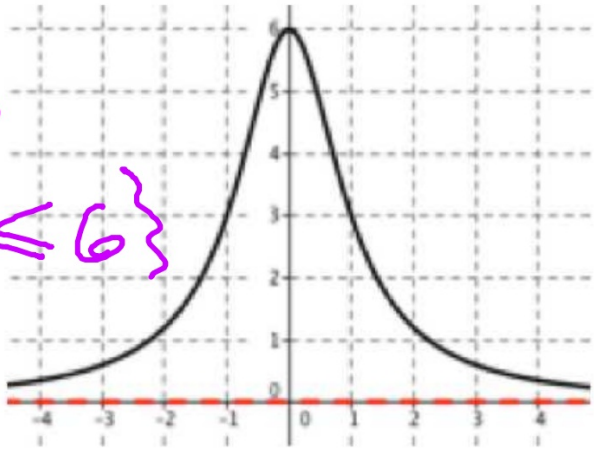
ex: Sketch. State the domain, range and end behavior.

$$y = \frac{x^2 + x}{x - 2}$$

ex: Sketch. State the domain, range and end behavior.

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

ex: Use the graph to state the domain, range and end behavior.



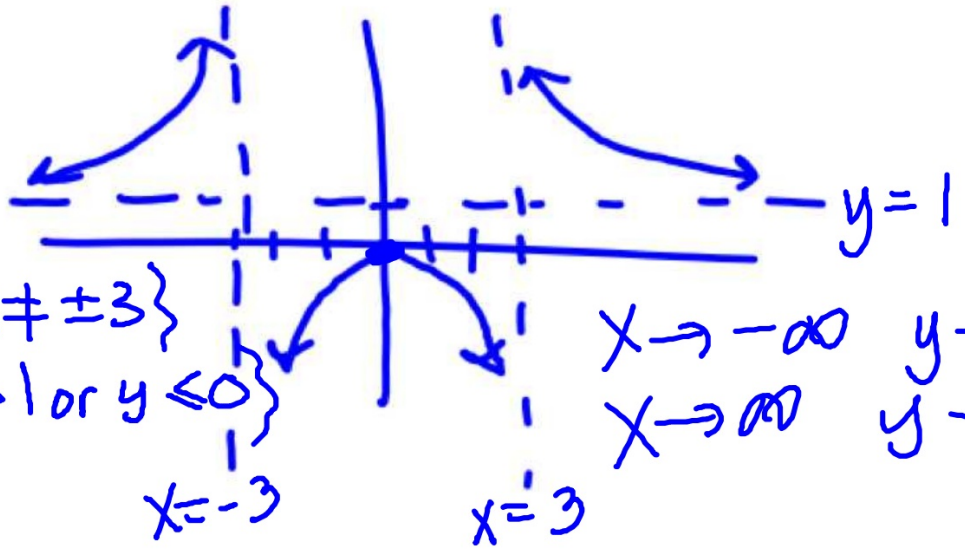
$D: \{x \mid x \in \mathbb{R}\}$

$R: \{y \mid 0 < y \leq 6\}$

$x \to -\infty \; y \to 0$

$x \to \infty \; y \to 0$

ex: Use the graph to state the domain, range and end behavior.



$D: \{x \mid x \neq \pm 3\}$

$R: \{y \mid y > 1 \text{ or } y \leq 0\}$

$x \to -\infty \quad y \to 1$

$x \to \infty \quad y \to 1$

Find the x and y-intercepts (if any)

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

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

y int: none

$\left(\frac{3}{5}, 0\right)$ | x int: $3/5$