

Foundations for College Algebra
Fall 2016
Quiz #4

Name: Key Date: September 14, 2016

1. Use the chart below to place a check mark indicating which sets the item on the left is a member of.

	N	W	Z	Q	Q'	R
$-\pi$					✓	✓
$\frac{416}{3}$				✓		✓
1	✓	✓	✓	✓		✓
$-\sqrt{5}$					✓	✓
5.0	✓	✓	✓	✓		✓

Note: Q' means the set of not Rational Numbers or Irrational Numbers!

2. Use the *Distributive tool* to rewrite $14xy - 2x$

$$2x(7y - 1)$$

3. Simplify the following complex fraction: $\frac{\frac{2}{5} - \frac{3}{x}}{\frac{2}{5x^2}}$; Show all work!

$$\frac{\frac{2}{5} - \frac{3}{x}}{\frac{2}{5x^2}} = \frac{\frac{2x - 15}{5x}}{\frac{2}{5x^2}} = \frac{2x - 15}{5x} \cdot \frac{5x^2}{2}$$

$$= \boxed{\frac{x(2x - 15)}{2}}$$

or

$$\frac{2x^2 - 15x}{2}$$

4. Use *Order of Operations* and knowledge of fractions to simply:

$\frac{1}{3} + \frac{1}{3} \cdot 6 + 3 \div \frac{1}{2} - \frac{1}{3}$ Note: Show each step accurately; do use decimals or mixed fractions.

$$\begin{array}{l} \frac{1}{3} + \frac{1}{3} \cdot 6 + 3 \div \frac{1}{2} - \frac{1}{3} \\ \frac{1}{3} + 2 + 3 \div \frac{1}{2} - \frac{1}{3} \\ \frac{1}{3} + 2 + 6 - \frac{1}{3} \\ \frac{1+6}{3} \\ \frac{7}{3} + 6 - \frac{1}{3} \\ \frac{7+18}{3} \end{array} \quad \left| \quad \begin{array}{l} \frac{25}{3} - \frac{1}{3} \\ \frac{25-1}{3} \\ \frac{24}{3} \\ \boxed{8} \end{array} \right.$$

5. Evaluate the following: $|x^2| - y^2$; where $x = -5$ and $y = -4$ *Show all work!*

$$\begin{array}{l} |(-5)^2| - (-4)^2 \\ |25| - 16 \\ 25 - 16 \\ \boxed{9} \end{array}$$