

Foundations for College Algebra
Fall 2016
Quiz #3

Name: Key Date: September 7, 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
$\sqrt{25}$	✓	✓	✓	✓		✓
-0.0001				✓		✓
$\frac{8}{0}$						
-2			✓	✓		✓
$5.\overline{56}$				✓		✓

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

2. What is the key idea of the *Associative tool*?

Order does not change, but association changes, but the result is not changed.

3. Review the Algebraic expression below (i.) and state the sequence of *tools* used to simplify the expression (ii,iii,iv):

i. $3x + 2(x - 5) + 4x$

ii. $3x + 2x - 10 + 4x$ Distribution

iii. $3x + 2x + 4x - 10$ Commutative

iv. $9x - 10$ Association

4. Use the "meaning" of exponents to evaluate the following: -2^4

$$\begin{aligned} -2^4 &= (-1) \cdot 2^4 \\ &= (-1) \cdot 2 \cdot 2 \cdot 2 \cdot 2 \\ &= (-2) \cdot 2 \cdot 2 \cdot 2 \\ &= (-4) \cdot 2 \cdot 2 \\ &= (-8) \cdot 2 \\ &= -16 \end{aligned}$$

5. Convert the following repeating decimal to a fraction: $-0.\overline{27}$

$$\text{Let } x = -0.\overline{27}$$

$$100(x = -0.\overline{27})$$

$$100x = -27.\overline{27}$$

$$-x = \quad .\overline{27}$$

$$99x = -27$$

$$x = \frac{-27}{99}$$

$$\boxed{x = -\frac{3}{11}}$$