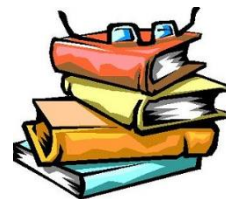


Name: Key

# UNIT 1 STUDY GUIDE FOR QUIZ #1



1. Put a check all the names that apply for the number.

	Natural	Whole	Integer	Rational	Irrational
$\sqrt{5}$					✓
$\sqrt{4}$	✓	✓	✓	✓	
2	✓	✓	✓	✓	
-3			✓	✓	
5.4				✓	
$\frac{7}{9}$				✓	

2. True or False. If False, provide a counterexample.

a. Integers are closed under addition.

True

b. Integers are closed under division.

False  
example)  $\frac{2}{3}$ ,  $\frac{2}{3}$  is not an integer

3. Simplify the expression.

a.  $\frac{6 \times 5 \div 10}{4^2 - 13}$

$$\frac{30 \div 10}{16 - 13} = \frac{3}{3} = \boxed{1}$$

b.  $[2 + (5^2 - 2 \times 3) - 1]$

$$[2 + (25 - 6) - 1]$$

$$[2 + (19) - 1]$$

$$[21 - 1] = \boxed{20}$$

c.  $6 \times 3^2 - 10 \div 2$

$$6 \times 9 - 10 \div 2$$

$$54 - 5$$

$$\boxed{49}$$

d.  $9 \div 3 + 6 \times 10 - 2$

$$3 + 60 - 2$$

$$63 - 2$$

$$\boxed{61}$$

4. Solve for x.

a.  $x - 3 = -10$

$$\frac{+3 \quad +3}{+3 \quad +3}$$

$$\boxed{x = -7}$$

b.  $-2 \cdot \frac{x}{-2} = 22 \cdot -2$

$$\boxed{x = -44}$$

b.  $-2 = 10 - 3x$

$$\frac{-10 \quad -10}{-10 \quad -10}$$

$$\frac{-12 = -3x}{-3 \quad -3} \quad \boxed{x = 4}$$

d.  $\frac{x}{3} - 2 = 8$

$$\frac{+2 \quad +2}{+2 \quad +2}$$

$$3 \cdot \frac{x}{3} = 10 \cdot 3$$

$$\boxed{x = 30}$$