Math 9 – Unit 1 Rationals Practice Test

Instructions: Show all your work in the space provided. All answers should be in lowest terms. NO CALCULATORS.

Vocabulary you should know:

Rational number: _____

Numerator: _____

Denominator: _____

Mixed fraction: _____

Improper fraction: _____

Lowest terms (reduce): _____

Reciprocal: _____

Common denominator: _____

Perfect square: _____

Square root: _____

1. Simplify.

a) (-14) + 26 = _____ b) 41 + (-36) = _____ c) 32 - 57 = _____

d) (-18) - 14 = _____ e) (-30) - (-24) = ____ f) (-7)(4) = _____

g) (-6)(-3) = _____ h) (5)(-6) ÷ (-2) = _____ i) (-36) ÷ (-4) = _____

2. Simplify. Show all your steps. Be sure that each line of work is equivalent to the original question.

a) 2(7 - 9) - 3(5 + 17) = _____ b) [3 - 10 ÷(-2)] - 6 (-3)= _____

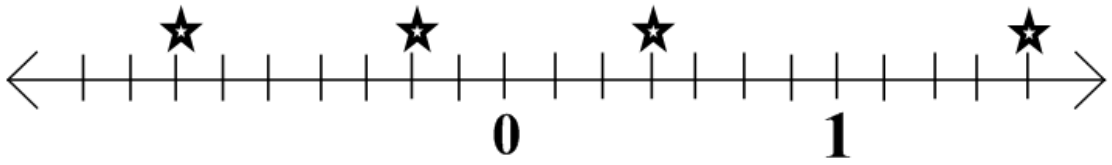
3. Arrange in ascending order (from least to greatest): 3, -9, 0, $^{2}/_{3}$, $^{-11}/_{4}$, $^{-6}/_{-5}$, $^{-12}/_{2}$

_____ _____ _____ _____ _____ _____ _____

4. Determine two rational numbers between each pair:

½ and ¼ -0.72 and -0.73 3/5 and 0.62

5. Identify the <u>rational numbers</u> marked with a * on the number line.



5. Express the rational numbers as a decimal. $-^{18}/_{4}$= _____

6. Express the decimal as a fraction in lowest terms. 0. 12 = _____

7. Calculate. All answers should be in lowest terms.

a) $\frac{-1}{2}+\frac{3}{8}=$ b) $-3\frac{1}{4}-\frac{9}{5}=$ c) $\frac{3}{-5}\times\left(-\frac{10}{9}\right)=$

d) $\frac{-14}{15}\div 1\frac{1}{9}=$

8. Calculate. Show all steps.

a) $\left(\frac{-5}{2}\right)+\frac{3}{5}\times\frac{-2}{3}=$ b) $10-\left(\frac{-3}{4}\right)\div\frac{5}{8}-\left(\frac{-1}{2}\right)=$

c) $\sqrt{\frac{16}{25}} + \frac{-1}{2} \cdot 3\frac{3}{4} - 1.2$

9. Fill in the blanks to make a true statement related to rational numbers.

   a) The number on the top of the fraction is called the _____.

   b) A negative number is found on the _____ of zero on the numberline.

   c) If x <0, y<0 and z<0, the expression (xy - z) would be _____.

   d) When dividing rational, one method of finding the answer is to _____ _____

   e) A _____ _____ is needed when subtracting fractions.

   f) Write two equivalent forms for the fraction $\frac{-12}{20}$ are _____ and _____

   g) Determining the square root of a number is similar to finding _____ of a square.