Math 011 – Practice Test 1
Show all work. Simplify all answers. Leave all answers exact (reduced fractions not rounded decimals – unless otherwise indicated).

1) Find all factors of 60.

2) Find the prime factorization of 36 and 30. Then find the LCM.
   a) The prime factorization of 36:
   b) The prime factorization of 30:
   c) The LCM

3) Simplify \( \frac{49}{21} \)

4) Divide and simplify \( \frac{2}{15} \div \frac{1}{5} \)

5) Write 3.21 in fractional notation.

6) Find the decimal notation for 31%

7) Find the percent notation for 3.75

8) Evaluate \( 12 - 2^3 \cdot 3 + 6 \)
9) Find the perimeter of the polygon.

10) Find the area of a rectangle

11) Translate to an algebraic expression: 46 more than n

12) Translate to an algebraic expression: Twice a number less than five. (Use x as the variable.)

13) Graph on the number line \( \frac{-2}{3} \)

14) Use < or > to make the statement true.

   \[ 2 \quad -12 \]

15) Use < or > to make the statement true.

   \[ -9 \quad -3 \]

16) Use < or > to make the statement true.

   \[ \frac{3}{4} \quad \frac{5}{7} \]

17) Add. \(-1 + 8\)

18) Add. \(5 + (-1)\)
19) Add. \( \frac{-7}{3} + \left( -\frac{6}{5} \right) \)

20) Subtract. \( 5 - (-12) \)

21) Subtract. \( -9 - 5 \)

22) Subtract. \( \frac{1}{4} - \frac{3}{4} \)

23) Multiply. \( (-2)(-3) \)

24) Multiply. \( 3(-10) \)

25) Divide. \( \frac{45}{-5} \)

26) Find the reciprocal. \( \frac{1}{2} \)

27) Find the reciprocal. \( -3 \)
28) Divide. \[ \frac{10}{2} + \left( -\frac{5}{9} \right) \]

29) Use a commutative law to find an expression equivalent to \( (3)(4) \)

30) Use an associative law to find an expression equivalent to \( (a + b) + 2 \)

31) Multiply \( 2(x - 5) \)

32) Factor \( -10r + 15 \)

33) Collect like terms \(-3u - 6 - 5u + 14\)

34) Find an equivalent expression without parentheses \(-2y - 11\)

35) Simplify by removing parentheses and collecting like terms \( 3n - (4n + 6) \)

36) Simplify \[ 2 - 5(9 - 3) \]
37) Simplify \([4(7 - 9) - 3] - [8 - (2 - 1)]\)

38) Simplify \((8 - 2 \cdot 5) + 12\)

39) Simplify \(10 - 3^2\)

40) Simplify \(\frac{-5^2 - 10}{5^2 + 2^3}\)