

Classwork 1

September 20, 2020

1. Two boys together have \$12. One of them has \$10 more than the other. How much money does each of them have?
2. How many multiples of 3 are there between (a) one and 20? (b) Between 1 and 100? (c) Between 100 and 200?
3. Lena is 5 years older than Andrew. Sum of their ages is 21. How old is each of them? Guessing is OK in addition to solution through equation. (*hint: make Lena or Andrew x , write expression for another one using x , write an equation, just like in class, solve it, write the answers: L : and A :*)
4. Is the number 12345 divisible by 3? by 9? by 5? by 10?

Least Common Multiple (LCM) and Greatest Common Divisor/Factor (GCD, GCF).

Definition: LCM of two integers a and b , usually denoted by $\text{LCM}(a, b)$, is the smallest positive integer that is divisible by both, a and b .

Definition: GCF is the greatest factor that divides two or more numbers without a remainder.

1. A package of plastic forks contains 16 forks. A package of plastic knives contains 12 knives. What is the smallest number of packages of each kind you have to buy to get exactly the same number of forks as knives? LCM (Least Common Multiple)
2. Find the LCM and GCF of the following numbers: (*When determining GCF think about numbers as a fraction, you simplify*)
 - a. 9 and 12
 - b. 16 and 12;
 - c. 24 and 8;
 - d. 28 and 30;
3. Find LCM and GCD of the following numbers using prime factorization:
 - a. 196 and 21

- b. 365 and 30
- c. 48 and 60

Prime numbers: a number is called prime if it has no divisors other than itself and one. Other-wise, a number is called **composite**. (**Number 1 is an exception:** even though it has no divisors, **it is not considered prime nor a composite**).

3. Use prime factorization of the numbers below to analyze their composite factors:

60, 72, 801, 98, 48

4. Use the distributive property of multiplication to remove parenthesis:

$$3 \cdot (x + 3) = \underline{\hspace{2cm}} \quad 5 \cdot (7 + 2x) = \underline{\hspace{2cm}}$$

$$4 \cdot (2x - 3) = \underline{\hspace{2cm}} \quad 7 \cdot (3y + 8) = \underline{\hspace{2cm}}$$

$$(5x - 7) \cdot 6 = \underline{\hspace{2cm}} \quad 3 \cdot (4y + w) = \underline{\hspace{2cm}}$$

$$(2y - 5x + 4) \cdot 9 = \underline{\hspace{2cm}}$$

5. Equations.

Review of negative number operations. Calculate:

$$2 - 7 = \hspace{10em} -11 - (-7) =$$

$$2 - (-7) = \hspace{10em} -14 - 7 =$$

$$-2 - 7 = \hspace{10em} 14 - (-7) =$$

$$-2 - (-7) = \hspace{10em} 14 - 7 =$$

Distribution property:

1) $2(x + 7) =$ _____

2) $(x + 7) \cdot 2 =$ _____

. Simplify or calculate:

a) $1 \text{ cm} + 3 \text{ cm} + 5 \text{ cm} =$

b) $x + 3x + 5x =$

c) $3x + x + 9x - 12x =$

d) $x - 2x =$

e) $3x + 3 - x + 7 =$

f) $3 + x + 2 - 4x =$

4. Remove parentheses:

a). $2(2x - 1 + 4b) =$ _____

b). $(x + 7 - 5w) \cdot 4 =$ _____

c). $7(3t - 5 + 4g) =$ _____