

# Lesson 3a: Expressions and Multiplication Properties

**Objective: Evaluate algebraic expressions and use the properties of multiplication**

Complete on a separate sheet of paper and turn in to the basket.

**Warm-up:** Add or subtract.

1.  $32,805 + 946,049 =$
2.  $1,496,325 + 4,100,000 =$
3.  $765,085 - 479,381 =$
4.  $6,872,000 - 2,002,000 =$

Solve. If there is not enough information, tell what information is needed.

5. An amusement park had 12,590 visitors last Saturday. On a normal weekend, the park has 25,000 visitors. How many fewer visitors than normal did the amusement park have last weekend?

**Vocabulary: Properties of Multiplication**

1. Commutative Property – Changing the order of factors does not change the product.
  - a.  $a \times b = b \times a$
  - b.  $5 \times 10 = 10 \times 5$
2. Associative Property – Changing the grouping of factors does not change the product.
  - a.  $a \times (b \times c) = (a \times b) \times c$
  - b.  $3 \times (5 \times 4) = (3 \times 5) \times 4$
3. Identity Property – The product of any number and 1 is that number.
  - a.  $m \times 1 = m$
  - b.  $72 \times 1 = 72$
4. Zero Property – The product of any number and 0 is 0.
  - a.  $z \times 0 = 0$
  - b.  $36 \times 0 = 0$

**Watch Brainpop Video:** commutative and associative properties

PowerPoint presentation - properties of multiplication.

**App on the iPad: Math drills - multiplication**



**Homework: 3.1**