

## Math Skills Study Guide

**Perimeter:** The distance around a shape, yard, pasture, desk, etc.

- Found by adding all the sides together.

### **Properties of Numbers:**

#### **Commutative properties of addition and multiplication**

- Example #1:  $12 + 8 = 8 + 12$
- Example #2:  $6 \times 7 = 7 \times 6$

#### **Zero property of addition (additive identity)**

- $24 + 0 = 24$

#### **Property of one for multiplication (multiplicative identity)**

- $75 \times 1 = 75$

#### **Associative properties of addition and multiplication**

- Example #1:  $4 + (2 + 3) = (4 + 2) + 3$
- Example #2:  $2 \times (3 \times 5) = (2 \times 3) \times 5$

#### **Symmetric property of equality of addition and multiplication**

- Example #1:  $100 = 20 + 80$  is the same as  $20 + 80 = 100$
- Example #2:  $21 = 7 \times 3$  is the same as  $3 \times 7 = 21$

### **Measurement**

60 minutes = 1 hour

24 hours = 1 day

7 days = 1 week

12 months = 1 year

52 weeks = 1 year

1 ounces (oz.) = about 1 strawberry

1 pound (lb.) = 1 textbook

8 ounces (oz.) = 1 cup (c.)

2 cups = 1 pint (pt.)

2 pints = 1 quart (qt.)

4 quarts = 1 gallon (gal.)

### **Fact Families**

- Example:  $4 \times 6 = 24$ ,  $6 \times 4 = 24$ ,  $24 \div 6 = 4$ ,  $24 \div 4 = 6$

### **Range, Median, Mode, Mean, Maximum, & Minimum**

When you are given a set of numbers, always put them in order from greatest to least.

11, 12, 12, 54, 81

- Minimum value: smallest number in set which is 11
- Maximum value: largest number in set which is 81
- Range: Largest number minus the smallest number  $81 - 11 = 70$
- Median: The number in the middle which is 12
- Mode: The number that occurs most often 12
- Mean: The average of all the numbers in the set which is  $11 + 12 + 12 + 54 + 81 = 170 \div 5 = 34$

### **Reads and writes numbers from hundredths place through one-hundred thousands place**

- Example: 462,284.50 is standard form
- Word form: four hundred sixty-two thousand, two hundred eighty-four and fifty hundredths
- Expanded form:  $400,000 + 60,000 + 2,000 + 200 + 80 + 4 + .5 + .00$
- Expanded form:  $(4 \times 100,000) + (6 \times 10,000) + (2 \times 1,000) + (2 \times 100) + (8 \times 10) + (4 \times 1) + (5 \times .1) + (0 \times .01)$

### **Relationship between following operations**

- Multiplication is repeated addition:  $5 \times 6$  is read 5 groups of 6 or  $6 + 6 + 6 + 6 + 6$ .
- Division is repeated subtraction:  $20 \div 4$  is read 20 divided by 4 or  $20 - \underline{4} = 16 - \underline{4} = 12 - \underline{4} = 8 - \underline{4} = 4 - \underline{4} = 0$

## **Money**

- 100 pennies = \$1.00
- 20 nickels = \$1.00
- 10 dimes = \$1.00
- 4 quarters = \$1.00
- Know how to count back change up to \$20.00
- Know how to add a list of dollar amounts and find the total  
(Example:  $\$.34 + \$1.12 + \$5.78 + \$.78 = ?$ )

## **Identify the following shapes**

- Circle: 0 sides
- Square: 4 sides
- Rectangle: 4 sides
- Triangle: 3 sides
- Pentagon: 5 sides
- Trapezoid: 4 sides
- Ellipse: 0 sides
- Rhombus: 4 sides
- Octagon: 8 sides
- Hexagon: 6 sides