

**LESSON 22: CLOSURE, ASSOCIATIVE, AND COMMUTATIVE****▶▶ PROBLEM SET:**

Solve each of the following problems and identify the property that each displays.

1.  $\$1 + 2\$ = \$2 + ?$

**\$1**

**Commutative**

2.  $\$2 + \$3 = \$3 + ?$

**\$2**

**Commutative**

3.  $\$2 + (\$5 + \$6) = (\$2 + \$5) + ?$

**\$6**

**Associative**

4.  $\$3 + (\$2 + \$7) = (\$3 + \$2) + ?$

**\$7**

**Associative**

5.  $3 * 2 = 2 * ?$

**3**

**Commutative**

6.  $4 * 5 = 5 * ?$

**4**

**Commutative**

7. If you add two even numbers together what do you get? What principal does this display?

**An Even Number**

**Closure**

8.  $B * A * C = A * B * C$       What property does this display?

**Commutative**

9.  $A + B + C = (A + B) + C$       What property does this display?

**Associative**

10. If you add two odd numbers together do you get an odd number? Does this mean that odd numbers are closed under addition? If they were, what type of number would you get when you added them together?

**No, No, Odd**