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ACTIVITY / LESSON / WORKSHEET COVER

EXPLORE! ENGAGE! ENLIGHTEN!

CREATED BY S. WELDON

TITLE: ROLL THE DICE – ALGEBRAIC EXPRESSION ACTIVITY

TYPE OF ACTIVITY: IN-CLASS, GROUP OR INDIVIDUAL

NO. OF PAGES: 2, INCLUDING INSTRUCTIONS

CCS: A-APR.1

INTENDED AUDIENCE: PRE-ALGEBRA, ALGEBRA, ADULT ED / GED

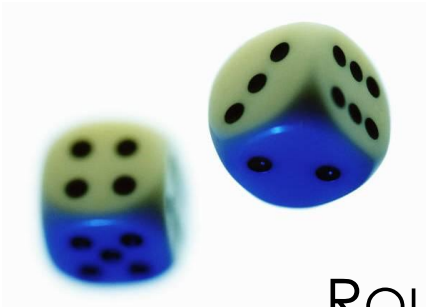NOTES: 30 – 60 MINUTES, DEPENDING ON CLASS AND SKILL LEVEL

ROLL THE DICE!

To the Teacher:

1. Hand out one die or two dice and the second page to students.
2. Explain the instructions:
   a. Roll the die/dice,
   b. Write the (total) number on the first Row,
   c. Add 7 to that number,
   d. Next, multiply by 2 (this is a great opportunity to review the Distributive Property!),
   e. Add 4 to the result,
   f. Divide by 2,
   g. Subtract 9.
3. As you walk around, notice how many times students have completed a column.
4. When most students have completed this at least three times, probe for understanding:
   a. How are the first and last numbers (in each column) related?
   b. What pattern do you see?
   c. Can we write an expression for this?
5. Write the expression together after students have had time to consider this.
   a. We started with a number from the dice. Let's call that x. (Write "x" on the board.)
   b. Next, we added 7: x + 7
   c. Multiply by 2, using the Distributive Property: $2(x + 7) = 2x + 14$
   d. Add 4: $2x + 14 + 4 = 2x + 18$
   e. Divide by 2: $\dfrac{2x + 18}{2} = x + 9$
   f. Subtract 9: $x + 9 - 9 = x$
   g. Our entire expression is therefore:
$$\frac{2(x + 7) + 4}{2} - 9$$

ROLL THE DICE!

Instructions:
1. Roll the dice,
2. Write the total number on the first Row,
3. Add 7 to that number,
4. Next, multiply by 2,
5. Add 4 to the result,
6. Divide by 2,
7. Subtract 9.

Number rolled						
Add 7						
Multiply by 2						
Add 4						
Divide by 2						
Subtract 9						