Name _____ Date _____

Skills Maintenance
Algebraic Expressions

Activity 1

Find the value of the variable that makes the statement true.
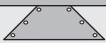
Model	If $x + 7 = 10$, what is the value of x? Answer ____x____ $= 3$

1. If $72 \div y = 8$, what is the value of y?

   $y =$ _____

2. If $m \cdot 7 = 56$, what is the value of m?

   $m =$ _____

3. If $50 - n = 25$, what is the value of n?

   $n =$ _____

4. If $z + 212 = 300$, what is the value of z?

   $z =$ _____

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Apply Skills
Introduction to Algebraic Equations

Activity 1

Decide whether the two sides of each equation are equal by simplifying the expressions on either side.

Model	
	$27 - 14 + 8 \cdot 2 = 3^2 + 4^2 + 2^2$
	Solving on the left: $27 - 14 + \mathbf{8 \cdot 2} = 3^2 + 4^2 + 2^2$
	$\mathbf{27 - 14} + 16 = 3^2 + 4^2 + 2^2$
	$\mathbf{13 + 16} = 3^2 + 4^2 + 2^2$
	$29 = 3^2 + 4^2 + 2^2$
	Solving on the right: $29 = \mathbf{3^2} + 4^2 + 2^2$
	$29 = 9 + \mathbf{4^2} + 2^2$
	$29 = 9 + 16 + \mathbf{2^2}$
	$29 = 9 + 16 + 4$
	$29 = \mathbf{9 + 16} + 4$
	$29 = \mathbf{25 + 4}$
	$29 = 29$
	Both of the sides equal 29.

1. $54 - 30 + 40 = 8^2$

Show your work here:

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2. $\underline{\quad (8 + 7) \qquad = \qquad 40 + 35 \quad}$

Show your work here:

3. $\underline{\quad 10^2 - 9^2 \qquad = \qquad 10 + \ 3^2 \quad}$

Show your work here:

4. $\underline{\quad 25 \cdot 10 \qquad = \ 5 \cdot 2 \cdot 5 \cdot 2 \cdot 5^2 \quad}$
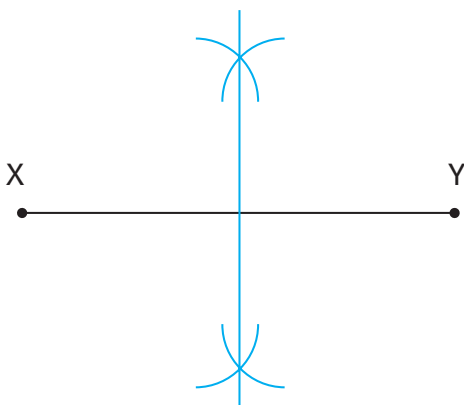
Show your work here:

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Problem-Solving Activity
Geometric Construction and Angle Measurement

Follow the instructions for each problem and make a set of perpendicular line segments and parallel lines. Explain your constructions and use as many of the geometric terms you learned as possible.

X   Y

1. **Using segment XY, draw perpendicular lines with a ruler and compass.**

_____

_____

_____

_____

2. **Using line segment LM, draw a line that is parallel to the segment.**

X   Y

_____

_____

_____

_____