

SUBSTITUTION PUZZLE

ANSWERS

The three shapes below are each given a value. Each value is a whole number and is between 0 and 10. Use the clues below to determine each shape's value.

$$\text{Hexagon } 9 > \text{Diamond } 4 > \text{Trapezoid } 3$$

$$\text{Hexagon } 9 + \text{Trapezoid } 3 = 12$$

$$\text{Diamond } 4 - \text{Trapezoid } 3 = 1$$

$$\text{Trapezoid } 3 + \text{Diamond } 4 = 7$$

$$\text{Hexagon } 9 = \underline{9} \quad \text{Diamond } 4 = \underline{4} \quad \text{Trapezoid } 3 = \underline{3}$$

Solve the problems by replacing the shapes with their values. This is called **SUBSTITUTION**.

$$1. \quad \text{Hexagon } 9 + \text{Diamond } 4 + \text{Trapezoid } 3 + \text{Diamond } 4 = \underline{20}$$

$$2. \quad \text{Diamond } 4 \times \text{Trapezoid } 3 + \text{Hexagon } 9 = \underline{21}$$

$$3. \quad \text{Hexagon } 9 - \text{Diamond } 4 + \text{Trapezoid } 3 = \underline{8}$$

$$4. \quad \text{Trapezoid } 3 \times \text{Trapezoid } 3 - \text{Hexagon } 9 = \underline{0}$$

$$5. \quad \text{Hexagon } 9 + \text{Diamond } 4 \times \text{Diamond } 4 = \underline{25}$$

$$6. \quad \text{Diamond } 4 \times \text{Trapezoid } 3 - \text{Trapezoid } 3 \times \text{Trapezoid } 3 = \underline{3}$$

$$7. \quad \text{Trapezoid } 3 + \text{Hexagon } 9 \times \text{Hexagon } 9 + \text{Trapezoid } 3 = \underline{87}$$

$$8. \quad \text{Hexagon } 9 + \text{Diamond } 4 - \text{Trapezoid } 3 + \text{Hexagon } 9 - \text{Diamond } 4 = \underline{15}$$

$$9. \quad \text{Diamond } 4 \times \text{Trapezoid } 3 - \text{Trapezoid } 3 \times \text{Trapezoid } 3 + \text{Hexagon } 9 = \underline{12}$$

DON'T FORGET ABOUT THE ORDER OF OPERATIONS. FOR EXAMPLE: YOU MULTIPLY BEFORE YOU ADD OR SUBTRACT.

