NAME _____

DATE _____

Module 4   Solving Problems Using Linear Equations of One Variable

Lesson 3   Solving Geometry Problems Using Equations of One Variable

independent practice

Write an equation and solve.

1. The perimeter of a square is 200 m. Find the length of each side.

    _____

2. The perimeter of an equilateral triangle is 72 in. Find the length of each side.

    _____

3. The perimeter of an equilateral triangle is 102 ft. Find the length of each side.

    _____

4. The perimeter of a rectangle is 54 m. The length is 3 m longer than the width. Find the length of the rectangle.

    _____

5. The perimeter of a rectangle is 46 m. The length is 5 m longer than the width. Find the width of the rectangle.

    _____

6. The perimeter of an isosceles triangle is 25 cm. The base is 4 cm longer than each leg. Find the length of the base.

    _____

7. The perimeter of an isosceles triangle is 52 in. Each leg is 8 in. shorter than the base. Find the length of each leg.

    _____

8. The perimeter of a scalene triangle is 33 in. The first side is 2 in. shorter than the second side, and the third side is 5 in. longer than the second side. Find the length of the shortest side.

    _____

9. In an isosceles triangle, the measure of the vertex angle is 5° more than five times the measure of each base angle. Find the measure of the vertex angle.

    _____

10. In a scalene triangle, the measure of the second angle is 10° greater than the measure of the first angle. The third angle measures 20° more than the first angle. Find the measures of the three angles.

    _____

11. An angle measures 30° more than its complement. Find the measures of the angle and its complement.

    _____

12. The measure of an angle is 6° greater than twice the measure of its complement. Find the measure of the angle.

    _____

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Journal

1. Suppose a classmate was absent and missed today's lesson. Explain to him or her the three-step problem solving-process.
2. Make a glossary of terms from geometry that are used in this lesson. Write the definition of each word. Where appropriate, make a sketch to clarify your definition.
3. Is the solution to an equation always the solution to a problem? Explain.
4. The formulas $P = 2l + 2w$ and $A = lw$ apply to all rectangles. Explain why these formulas also apply to all squares. Rewrite these formulas so that they could be applied to a square whose side has length s.
5. The formula for the perimeter of a rectangle is $P = 2l + 2w$. Explain how it might be possible to write this formula so that it has only one variable on the right side. Use problem 5 at the beginning of this Independent Practice to help you explain your answer.

Cumulative Review

Simplify.

1. $3^2 - 10$ _____

2. $(5 - 8)^3 + 15$ _____

3. $8 - (-2)^3 + 4^2$ _____

4. $\frac{10 - (-2)}{6^2 - 30}$ _____

5. $\frac{(-4)(8)}{(2)(-2)^3}$ _____

Identify the property shown in each equation.

6. $3 + (5 + 8) = (5 + 8) + 3$

7. $8 \cdot 1 = 8$

8. $(ab)5 = a(b \cdot 5)$

9. $a + 7 + (-7) = a + 0$

10. $0 \cdot r = 0$

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