Study the student model below. Then solve problems 16–18.

Student Model

The student drew a diagram to help write expressions for the perimeter.

The length of a rectangle is three times its width, w. Write three different expressions to describe its perimeter.

Use what you know about rectangles and perimeter to draw a diagram.

Expression 1:
$3w + w + 3w + w$, the sum of all 4 sides

Expression 2:
$2(3w) + 2(w)$, the sum of twice the length and twice the width

Expression 3:
$2(3w + w)$, twice the sum of the length and the width

Solution: $3w + w + 3w + w;\ 2(3w) + 2(w);\ 2(3w + w)$

⬚ Pair/Share

How could you use the distributive property to write one of the expressions for the perimeter?
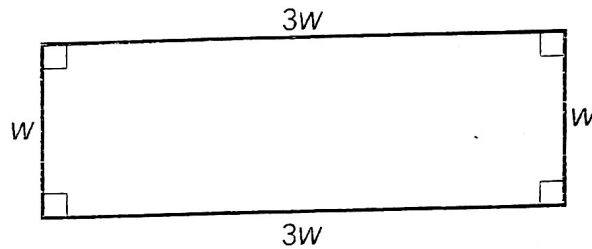
The sides of a regular polygon are all the same length.

16 The expression $12c - 18$ represents the perimeter of a regular hexagon. Write two different expressions to describe its perimeter. Then write an expression for the length of one of its sides.

Show your work.

Solution: _____

⬚ Pair/Share

How might drawing a diagram help you solve the problem?

Part 4: Guided Practice
Lesson 14

Is $\frac{1}{4}(8y - 12)$ equivalent to $2y - 12$? Explain why or why not.

Show your work.

Solution: _____

_____

_____

> *I know that the distributive property works the same for fractions as for whole numbers.*

> **Pair/Share**
> What is another way to tell whether or not two expressions are equivalent?

B Which expression below is equivalent to $-3x + 5(x + 2)$? Circle the correct answer.

A $2x + 2$

B $-x + 2$

C $2x + 10$

D $-8x + 10$

Kaitlin chose **A** as the correct answer. How did she get that answer?

_____

_____

_____

_____

> *Which operation must I perform first in this problem?*

> **Pair/Share**
> How would you help Kaitlin understand her error?