Name _____ Date _____

Objective 10
TEKS 8.15.A Review

8.15.A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.

Communicating Mathematical Ideas

Look for clues in symbols, words, and graphs that indicate operations and relationships among quantities.

EXAMPLE For a test in history, Mark studied 3 more hours than Sara, Sara studied twice as long as Seth, and Seth studied 2 hours less than April. The four friends studied a combined total of 35 hours. Can the following equation be used to determine the number of hours that April studied?

$$6x - 7 = 35$$

Let x = the number of hours April studied.	Write an expression for the hours that each friend studied.
Seth = $x - 2$	
Sara = $2(x - 2)$	
Mark = $3 + 2(x - 2)$	
$x + x - 2 + 2(x - 2) + 3 + 2(x - 2) = 35$	Write an equation.
$x + x - 2 + 2x - 4 + 3 + 2x - 4 = 35$	Simplify.
$6x - 7 = 35$	Combine terms.

The equation $6x - 7 = 35$ can be used to find the number of hours April studied.

YOU DO IT Gym students are selling sports calendars. They sold 4 more basketball calendars than swimming calendars, 8 fewer swimming calendars than football calendars, and 3 times as many football calendars as soccer calendars. They sold 308 calendars in all. Can you use $10x - 12 = 308$ to find the number of soccer calendars sold?

Let x = the number of soccer calendars.

__3__ x = football calendars

__3__ x − __8__ = swimming calendars

__4__ + __3__ x − __8__ = basketball calendars

Write an equation:

x + __3__ x + __3__ x − __8__ + __4__ + __3__ x − __8__ = __308__

Combine terms: __10__ x − __12__ = __308__

You __can__ use $10x - 12 = 308$ to find the number of soccer calendars sold.

Solve __10__ x − __12__ = __308__

__10__ __320__ x = __88__

x = __32__

Soccer = __32__ Football = __96__

Swimming = __92__ Basketball = ____

__32__ + __96__ + __88__ + __92__ = __308__