## ALGEBRA II

Chapter 2 section 5
Model Direct Variation
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## FOCUS:

What is a constant of variation and how is it related to slope?
VOCAB:
Direct Variation: $\qquad$
Constant of Variation: $\qquad$
WARM - UP:
Solve for a.

1. $10=2 a$
2. $-5 a=-16$
3. Write an equation of the line that passes through the points $(0,0)$ and $(4,8)$. $\qquad$
4. A flower is 4.5 centimeters wide and has a leaf 7.2 centimeters long. What is the ratio of flower width to leaf length?

## NOTES:

Write a direction variation equation that has the given point as a solution.

$$
\begin{equation*}
(-3,-9) \tag{6,-2}
\end{equation*}
$$

Hooke's Law states that the distance $d$ a spring stretches varies directly with the force $f$ that is applied to it.

Suppose a spring stretches 15 inches when a force of 9 pounds is applied. Write an equation that relates $d$ to $f$.

Predict the distance that the spring will stretch when a force of 6 pounds is applied.

The dimensions of five rectangles, each with an area of 24 square feet are given in the chart. Tell whether length and width show direct variation. If so, write an equation that relates the quantities.

| Length, $\mathbf{x}$ | 1 | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Width, $\mathbf{y}$ | 24 | 12 | 8 | 6 | 4.8 |

Let's see if you comprehended what we worked on in class...
Try $\qquad$ for homework

