Writing and Solving Equations

1. The angles of a triangle are $2x^{\circ}$, $(3x+1)^{\circ}$, and $(x+5)^{\circ}$. Find the measure of each angle.

2. The measure of an angle is 5° more than its supplement. Find the measure of each angle.

- **3.** The length of a rectangle is 5 centimeters more than twice the length of the width. If the perimeter of this rectangle is 94 centimeters, what is the length?
- **4.** The perimeter of a rectangle is 42cm. The length of the rectangle can be represented by (x + 4), and the width can be represented by (2x 7). What are the dimensions of the rectangle?
- **5.** The perimeter of a square is 68 feet. If each side is (2x-1) feet, find x.

6. The first side of a triangle is 8m shorter than the second side. The third side is 4 times as long as the second side. The perimeter is 46m. Find the length of each side.

7. The width of a rectangle is 2cm less than 7 times the length. The perimeter is 56cm. Find the width and the length.

8. Use the diagram to set up an equation to solve for x, and then find the measure of all three angles.



9. The measures of the angles of a triangle are x° , $(x + 5)^{\circ}$, and $(2x + 3)^{\circ}$. Solve for x and then find the measure of each angle.

10. Using the diagram below, what is the measure of the largest angle?



- **11.** $\angle A$ and $\angle B$ are supplementary. If the measure of $\angle A$ is $4x + 5^{\circ}$ and the measure of $\angle B$ is $x + 10^{\circ}$, find the measure of the largest angle.
- **12.** Find the measure of two complementary angles when the measure of one angle is 6 less than twice the other.
- The measure of an angle is 75° more than its complement. Find the measure of each angle.
- **14.** If $\angle D$ and $\angle G$ are supplementary angles and the measure of $\angle D$ is two less than three times the measure of $\angle G$, what is the measure of $\angle G$?

Slopes, Intercepts and Lines...

- Given the points (4,6) and (-8,-3), answer the following.
 a. What is the slope of the line connecting these two points?
 - b. Sketch a graph of the line.
 - c. What is the y-intercept?
 - d. Write the equation in slope-intercept form.



- 2. Given the equation y-2=2(x+3), answer the following.
 - a. Write the equation in slope-intercept form.
 - b. What is the slope?
 - c. What is the y-intercept?
 - d. What is the x-intercept?

- 3. Given the equation, 4x y = 4, answer the following. a. Write the equation in slope-intercept form.
 - b. What is the slope?
 - c. What is the y-intercept?
 - d. What is the x-intercept?
 - e. Write the equation of the new line if the original line is translated up 8 units.

- 4. Jason has \$250 in his savings account when he begins to save \$35 a month. Bill uses a graph to predict how much money he will save over time.
 - a. Establish and define each variable
 - b. Write an equation representing this situation in slope-intercept form.
 - c. What is the slope? What does it represent?
 - d. What is the y-intercept? What does it represent?
 - e. What is the effect of decreasing the amount he saves to \$20 per month on the graph?
- 5. Your family spend \$120 on tickets to the Mavericks game and \$8 per hour for parking. Your parents want you to calculator the total amount of money they will spend to go to the game.
 - a. Establish and define each variable
 - b. Write an equation representing this situation in slope-intercept form.
 - c. What is the slope? Determine the meaning of the slope.
 - d. What is the y-intercept? Determine the meaning of the y-intercept.
 - e. Your family gets free parking! What is the effect of paying \$0 for parking on the original graph?

