Problem set - equations - 2

Name: _____ Date: _____

Write each solution exactly. Show all of your work. You may use a calculator and notes.

1. Voltage is given in terms of current and resistance by the formula $V = IR$. Solve the formula for the current I.

2. The formula for simple interest is $I = Prt$. Solve this formula for the interest rate r.

3. A formula says $P + Q = K$. Solve the formula for Q.

4. Given $2t - 3r = C$, solve for t.

5. Given $\frac{a}{b} = \frac{x}{c}$, solve for x.

6. Two boxes together weigh eighteen pounds. Write an equation describing this relationship in which x and y are the weights of the boxes.

7. Two tanks together hold five thousand gallons. Write an equation describing this relationship in which x and y are the volumes of the tanks.

8. Distance is equal to the product of rate and time. Write an equation describing this relationship, and solve that equation for the time t.

9. A rope seventy-two feet long is cut into two pieces such that the second piece is eight feet longer than the first. How long is the shortest piece?

10. A rope sixty feet long is cut into two pieces such that the second piece is twice as long as the first. How long is the shortest piece?

11. A board ninety inches long is cut into three pieces such that the second is eighteen inches longer than the first, and the third is twice as long as the first. How long is each piece?

12. A cable one hundred twenty feet long is cut into three pieces such that the second it twelve feet longer than the first, and the third is two feet longer than the second. How long is each piece?

13. A rectangle is three feet longer than it is wide. Its perimeter is fifty-eight feet. Find the length and width of the rectangle.

14. A rectangle is twice as long as it is wide. Its perimeter is seventy-two feet. Find the length and width of the rectangle.

15. A rectangle is four times as long as it is wide. It's perimeter is sixty feet. Find the length and width of the rectangle.

16. A rectangle is seven feet longer than it is wide. It's perimeter is thirty-four feet. Find the length and width of the rectangle.