

ALGEBRA 1 / UNIT 2 / LESSON 4

SOLUTIONS TO PRACTICE PROBLEMS 4

1. Let b represent the amount Ben earns, and $(b - 300)$ the amount Allan earns. The equation is,

$$b + (b - 300) = 2700$$

$$2b - 300 = 2700$$

$$2b = 3000$$

$$b = 1500 \quad \text{Therefore Ben earns \$1,500 and Allan earns \$1,200.}$$

2. Let n represent the number, then the equation is,

$$3n + 15 = 135$$

$$3n = 120$$

$$n = 40 \quad \text{Therefore the number is 40.}$$

3. Let x , $(x + 1)$ and $(x + 2)$ represent the numbers. Then the equation is,

$$x + (x + 2) = 42$$

$$2x + 2 = 42$$

$$2x = 40$$

$$x = 20 \quad \text{Therefore the three numbers are 20, 21, 22.}$$

4. Let l represent the amount of likes Lena received in the second month. Then the equation is,

$$3500 + x + 3x = 23500$$

$$3500 + 4x = 23500$$

$$4x = 20000$$

$$x = 5000 \quad \text{Therefore the second number is 5000.}$$

5. Let y represent Pat's age now. Then the equation is,

$$4y + 9 = 5y$$

$$9 = y \quad \text{Therefore Pat is now 9 years old.}$$

6. Let r represent the shorter piece of rope. Then the equation is,

$$x + (x + 16) = 76$$

$$2x + 16 = 76$$

$$2x = 60$$

$$x = 30 \quad \text{Therefore the lengths are 30 inches and 46 inches.}$$

7. Let l represent the length of the rectangle. The formula for the perimeter of a rectangle is $2l + 2w$.

$$2l + 2(18) = 86$$

$$2l = 50$$

$$l = 25 \quad \text{Therefore the length of the rectangle is 25 inches.}$$

8. Let s represent the length of the second side. The equation is,

$$20 + 2s + s = 90$$

$$20 + 3s = 90$$

$$3s = 60$$

$$s = 30 \quad \text{Therefore the length of the third side of the triangular lot is 30 meters.}$$

9. Let n represent the number. Then the equation is,

$$3n - 4 = 2n + 4$$

$$n = 8 \quad \text{Therefore the number is 8.}$$

10. Let s represent the smaller number and the larger number is $(4s - 2)$. Then the equation is,

$$9s - 2(4s - 2) = 7$$

$$9s - 8s + 4 = 7$$

$$s = 3 \quad \text{The two numbers are 7 and 3.}$$