Conditions

1a) In last night's basketball game, Sally scored 9 less than twice what Lucy scored. The sum of their scores is 27. How many points did Sally and Lucy make individually?
1b) The heights in inches of three basketball players are 3 consecutive integers. If the sum of twice the 1st, 3 times the 2nd, and the 3rd is 437, what are the three heights.
1c) A rectangular floor has a perimeter of 54 feet. If the length is 3 more than the width, what are the dimensions of the floor?
1d) You are purchasing a CD player at a markdown price of $127.50. If the markdown price was 15% off the original price, how much was the CD player originally?
Solve for the Given Variable:
1) D=RT for T
2) T=D+pm for m

Solution

1a) Let's Sally's score is x, then Lucy's score is 0,5*(9+x). Then:

$$x + 0.5(9 + x) = 27$$

$$\frac{3}{2}x = 27 - \frac{9}{2} = \frac{45}{2}$$

$$x = 15$$

Sally scored 15, Lucy scored 0.5(9+x)=0.5(9+15)=12

Answer: 15, 12

1b) Let's 1st's height is x, then 2nd – x+1, 3rd – x+2. Then:

$$2x + 3(x + 1) + x + 2 = 437$$

$$6x = 432$$

$$x = 72$$

Then, the height of 1st is 72 , 2nd – 73, 3rd – 74 inches.

1c) Let's the width is x, then the length is x+3. So, the area is:

$$S = x(x + 3) = 54$$

$$x^2 + 3x - 54 = 0$$

$$D = 9 + 4 \cdot 54 = 225$$

$$x = \frac{-3 + 15}{2} = 6$$

The negative root of this quadric equation is rejected, as width can't be negative.

So, the width is 6, the length is 6+3=9

1d) Let's the original price is x, then the markdown price is:

$$x \cdot (1 - 0{,}15) = 127.50$$

$$0.85x = 127.50$$

$$x = 150$$

Answer: 150$

Solve for the Given Variable:

1) D=RT for T

T=D/R

2) T=D+pm for m

T-D=pm

$$m = \frac{T - D}{p}$$