

## Answer on Question #72966 – Math – Algebra

### Question

A new cruise ship line has just launched 3 new ships: the Pacific Paradise, the Caribbean Paradise, and the Mediterranean Paradise. The Caribbean Paradise has 21 more deluxe staterooms than the Pacific Paradise. The Mediterranean Paradise has 35 fewer deluxe staterooms than three times the number of deluxe staterooms on the Pacific Paradise. Find the number of deluxe staterooms for each of the ships if the total number of deluxe staterooms for the three ships is 511.

### Solution

Let the number of staterooms in the Pacific Paradise be  $x$ , then the number of staterooms in the Caribbean Paradise is  $x+21$ , the number of staterooms in the Mediterranean Paradise are  $3x-35$ .

We have an equation:

$$1) \quad x + 21 + x + 3x - 35 = 511;$$

$$5x - 14 = 511;$$

$$5x = 525;$$

$x = 105$  is the number of staterooms in the Pacific Paradise.

$$2) \quad 105 + 21 = 126 \text{ is the number of staterooms in the Caribbean Paradise.}$$

$$3) \quad 3 \times 105 - 35 = 280 \text{ is the number of staterooms in the Mediterranean Paradise.}$$

**Answer:** the Pacific Paradise has 105 staterooms, the Caribbean Paradise has 126 staterooms, the Mediterranean Paradise has 280 staterooms.