

Answer on Question #70223 – 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 32 more deluxe staterooms than the Pacific Paradise. The Mediterranean Paradise has 35 fewer deluxe staterooms than twice 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 581

Solution

Let the Pacific Paradise has “x” deluxe staterooms.

Then the Caribbean Paradise has $(32 + x)$ deluxe staterooms;

the Mediterranean Paradise has $(2x-35)$ deluxe staterooms.

We know that the total number of deluxe staterooms for the three ships is 581. Then the corresponding equation is given by

$$x+x+32+2x-35=581$$

$$4x=584$$

$$x=146$$

Then

the Caribbean Paradise has $(32 + x)=32+146=178$ deluxe staterooms;

the Mediterranean Paradise has $(2x-35)=2\cdot 146-35=257$ deluxe staterooms.

Answer:

There are 146 deluxe staterooms on the Pacific Paradise; 178 deluxe staterooms on the Caribbean Paradise; 257 deluxe staterooms on the Mediterranean Paradise.