Task. Thom paid $90 for 1 watch and 2 calculators. Each calculator cost 1/4 as much as a watch. How much did he pay for each watch?

Solution. Let w be the cost of one watch and c be the cost of one calculator. Then

$$w + 2c = 90$$

and

$$c = \frac{1}{4}w = \frac{w}{4}, \qquad \Rightarrow \qquad w = 4c.$$

Substituting this expression into the first equation we get

$$4c + 2c = 90 \qquad \Rightarrow \qquad 6c = 90 \qquad \Rightarrow \qquad c = \frac{90}{6} = 15.$$

Hence the cost of one watch is

$$w = 4c = 4 * 15 = 60.$$

Answer. 60