

Answer on Question #60742, Physics / Other |

For sale in the local supermarket are packed of steel screwed eyelets. Each packet cost 0,96£ and consists of two screwed eyelets and two large ones. taken on an individual basis, a large screwed eyelet costs twice as much as a small one. The large eyelets have a mass of 40g each with small one have a mass of 18 g each. Calculate the cost of a single small screwed eyelet and the cost of a single large. and calculate the cost per tonne of the small and large.

Solution:

Let x be the cost of the small eyelet.

From given, the cost of the large eyelet is $2x$.

The equation which we will solve

$$2x + 4x = 0.96$$

$$6x = 0.96$$

$$x = 0.16$$

Solve for x , $0.96 = 2x + 4x$

The cost per tone of the small eyelet is

$$cs = \frac{1000 \text{ kg}}{0.018 \text{ kg}} \cdot 0.16 \text{ £} = 8888.89\text{£}$$

The cost per tone of the large eyelet is

$$cl = \frac{1000 \text{ kg}}{0.040 \text{ kg}} \cdot 0.32 \text{ £} = 8000.00\text{£}$$

Answer: the cost of a single small screwed eyelet is 0.16£;
the cost of a single large screwed eyelet is 0.32£;
The cost per tone of the small eyelet is 8888.89£;
The cost per tone of the large eyelet is 8000.00£.