Answers

Task 1

Pure gold is a metal that has many special properties. For example, it is used as a heat shield in some satellites and on electronic circuit boards.

Other metals may be added to it to make different types of gold alloy.

Complete the table by working out the missing percentages.

|  |  |
| --- | --- |
| White gold | Gold 75%, palladium 25% |
| Green gold | Gold 75%, 15% silver, 6% copper, cadmium 4% |
| Red gold | Gold 75%, copper 25% |
| Rose gold | Gold 74.75%, copper 22.5%, silver 2.75% |

Task 2

1. Out of a focus group of 30 users, 22 prefer a wood finish to a metal finish. What percentage of users in the focus group prefer the metal finish? Give your answer to 1 d.p.

8 out of 30 users prefer the metal finish.

As a percentage this is $\frac{8}{30}$ × 100 = **26.7%**

2. An alloy of solder contains 60% tin and 40% lead by mass.
A sample of solder has a mass of 10.5 g. Work out the mass in the solder of:

|  |  |  |
| --- | --- | --- |
| (a) tin |  | (b) lead |
| $\frac{60}{100}$ × 10.5 = **6.3 g** |  | 10.5 − 6.3 = **4.2 g** |

(c) A student cuts out a piece of metal sheet with an area of 150 cm2 from a sheet of
250 cm2. What percentage of the metal is not used?

Area not used = 250 cm2 − 150 cm2 = 100 cm2

Percentage area not used $\frac{100}{250}$ x 100 = **40%**