

Upper and lower bounds

1. A gold necklace has a mass of 127 grams, correct to the nearest gram.
 - (a) Write down the **least** possible mass of the necklace
 - (b) Write down the **greatest** possible mass of the necklace.
2. Each apple in a bag weighs 90 g, correct to the nearest 10 g.
 - (a) Write down the greatest possible weight of one of these apples.
 - (b) Find the least possible total weight of six of these apples.
3. A metal bar has a volume of 250cm^3 .
It has a mass of 1.7 kg. Calculate the density of the metal.
State the units of your answer.
4. A can of drink weighs 342g to the nearest gram.
 - (a) What are the minimum and maximum weights of the can?
 - (b) The cans are sold in packs of 12
What are the minimum and maximum weights of a pack of cans?
5. A broadband internet connection has a download speed of 60 Kilobytes per second, which is accurate to 1 significant figure.
A video file is 15 000 Kilobytes, accurate to 2 significant figures.
Calculate the greatest possible time needed to download this file.

Units conversion and Currency Exchange

1. Ron went to Spain.

He changed £200 into Euros (€). The exchange rate was $£1 = €1.40$

(a) How many Euros did he get?

When he came home he changed €10.64 back into pounds.

The exchange rate was now $£1 = €1.33$

(b) How many pounds did he get?

2. Margaret goes on holiday to Switzerland.

The exchange rate is $£1 = 2.10$ francs. She changes £450 into francs.

(a) How many francs should she get? In Switzerland, Margaret buys a railway ticket. The cost of the railway ticket is 63 francs.

(b) Work out the cost of the ticket in pounds.

3. James and Sam went on holiday by plane.

The pilot said the speed of the plane was 285 kilometres per hour.

James told Sam that 285 kilometres per hour was about the same as 80 metres per second. Was James correct? Show working to justify your answer.

4. Jamie goes on holiday to Florida.

The exchange rate is $£1 = 1.70$ dollars. He changes £900 into dollars.

(a) How many dollars should he get?

After his holiday Jamie changes 160 dollars back into pounds.

The exchange rate is still $£1 = 1.70$ dollars.

(b) How much money should he get? Give your answer to the nearest penny.

5. The motorway speed limit in Great Britain is 70 miles per hour.

The motorway speed limit in Spain is 120 kilometres per hour.

Which of these speed limits is the lowest speed?

You must show working to explain your answer.

6. When Jane visited Australia the exchange rate was

$£1 = \$2.46$.

(a) She changed £350 into Australian dollars (\$). How many dollars did Jane receive?

(b) Jane made a phone call which cost \$5. Calculate the cost of the phone call in British money. Give your answer correct to the nearest penny.

7. Two pounds of powder are mixed with one gallon of water to make paint.

16 ounces = 1 pound.

(a) How many ounces of powder are mixed with one gallon of water?

(b) 8 pints = 1 gallon.

How many ounces of powder are mixed with one pint of water?