

You must write down all the stages in your working.

1 Work out  $8.46 \div 0.15$

convert to whole numbers by  $\times 100$  on both sides

$$846 \div 15 \overset{\text{①}}{=} \Rightarrow 15 \overline{) 846.0} \overset{\text{①}}{=} \begin{array}{r} 056.4 \\ 15 \overline{) 846.0} \\ \underline{75} \phantom{0} \\ 96 \phantom{0} \\ \underline{90} \phantom{0} \\ 60 \phantom{0} \\ \underline{60} \phantom{0} \\ 0 \end{array} \begin{array}{r} 15 \\ 30 \\ 45 \\ 60 \\ 75 \\ 90 \end{array}$$

①

56.4

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(Total for Question 1 is 3 marks)

- 2 Jonny wants to know how much coffee he will need for 800 people at a meeting.

Each person who drinks coffee will drink 2 cups of coffee.

10.6 g of coffee is needed for each cup of coffee.

Jonny assumes 68% of the people will drink coffee.

- (a) Using this assumption, work out the amount of coffee Jonny needs.

Give your answer correct to the nearest gram.

Finding the number of people assumed to drink coffee :

$$\frac{68}{100} \times 800 = 544 \quad (1)$$

Finding the amount of coffee for each person :

$$10.6 \text{ g} \times 2 = 21.2 \text{ g} \quad (1)$$

Finding the total amount of coffee Jonny needs :

$$21.2 \text{ g} \times 544 = 11532.8 \text{ g} \quad (1)$$

$$\approx 11533 \text{ g (to the nearest gram)}$$

$$(1)$$

11533

g

(4)

Jonny's assumption is wrong.

72% of the people will drink coffee.

- (b) How does this affect your answer to part (a)?

Jonny will need more amount of coffee. (1)

(1)

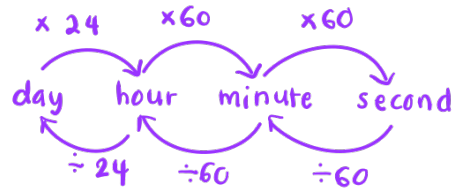
(Total for Question 2 is 5 marks)

- 3 Lava flows from a volcano at a constant rate of  $11.9 \text{ m}^3/\text{s}$

How many days does it take for  $67\,205\,600 \text{ m}^3$  of lava to flow from the volcano?  
Give your answer correct to the nearest day.

Finding total time it takes in seconds:

$$\frac{67\,205\,600 \text{ m}^3}{11.9 \frac{\text{m}^3}{\text{s}}} = 564\,7529.412 \text{ s} \quad (1)$$



Converting time from seconds to days:

$$= 564\,7529.412 \text{ s} \times \frac{1 \text{ day}}{(24 \times 60 \times 60) \text{ s}}$$

$$= \frac{564\,7529.412}{86400} = 65.3 \text{ days}$$

$$= 65 \text{ days (nearest day)} \quad (1)$$

..... 65 ..... days

(Total for Question 3 is 3 marks)