

$$\textcircled{1} \quad \frac{\text{Dose required}}{\text{Dose available}} \times \text{Volume} = \frac{3}{10} \times \frac{5}{1} = \frac{15}{10} = 1.5 \text{ ml}$$

↓
more decimal point (d.p.)
1 place to the left

ALTERNATIVE METHODS:

$$\text{(a)} \quad \frac{3}{10} \times 5 = 0.3 \times 5 = 1.5 \text{ ml}$$

$$\text{(b)} \quad \frac{3}{10} \times \frac{5}{1} = \frac{3}{2} \times \frac{1}{1} = \frac{3}{2} = 1\frac{1}{2} = 1.5 \text{ ml}$$

divide 10 & 5 by 5 (cross division)

Answer 1.5 ml

$$\textcircled{2} \quad \begin{array}{r} 25 \\ \times 14 \\ \hline 100 \\ 250 \\ \hline 350 \end{array}$$

Long Multiplication

divide by 3 because
24 hrs = 8 hrs $\times 3$

$$3 \overline{) 116.6}$$

keep d.p. aligned directly below each other

make sure you put down a zero here when multiplying the TENS column

Answer = 117 mg (rounded to nearest whole number)

$$\textcircled{3} \quad \frac{5.5}{10} \times \frac{1}{1} = 0.55 \quad \left[\text{simply move d.p. 1 place to the left} \right]$$

Answer 0.55 ml

$$\textcircled{4} \quad \text{per day: } 4.5 \times 100 = 450 \quad \begin{array}{l} \text{move d.p. 2 places to right} \\ 4.50 \end{array}$$

$$\text{per hour } (\div 24) \quad 450 \div 24$$

need to factorise i.e. what 2 numbers multiplied together make 24?

Divide 450 firstly by 4, then divide this answer by 6.

e.g. 6 & 4

$$4 \overline{) 1800.00}$$

$$6 \overline{) 112.50}$$

Answer 18.75 ml / hour

$$(5) \frac{30}{50} \times \frac{1}{1} = \frac{3}{5} = 0.6$$

↑
simplify ($\div 10$)

↑
learn

common fractions eg. $\frac{1}{2} = 0.5$

$$\frac{1}{3} = 0.33$$

$$\frac{1}{4} = 0.25$$

$$\frac{1}{5} = 0.2 \quad (\times 3 \text{ to get } \frac{3}{5})$$

Answer 0.6ml

$$5 \overline{) 3.0} \begin{array}{l} 0.6 \\ \underline{3.0} \\ 0 \end{array}$$

$$(6) \frac{150}{50} \times \frac{1}{1} = \frac{15}{5} = 3$$

Answer 3ml

$$(7) (a) \text{ First } 10\text{kg} = 100 \times 10 = 1000$$

$$10\text{kg left} = 50 \times 10 = 500$$

1500ml per day

Per hour : $1500 \div 24$ (need to factorise 24)

$$\begin{array}{r} 0250 \\ 6 \overline{) 1500} \\ \underline{12} \\ 30 \\ \underline{30} \\ 0 \end{array}$$

$$\begin{array}{r} 062.5 \\ 4 \overline{) 250.0} \\ \underline{24} \\ 10 \\ \underline{8} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

$$\begin{array}{c} \circlearrowleft \\ \circlearrowright \end{array} \times \begin{array}{c} \circlearrowleft \\ \circlearrowright \end{array}$$

Answer 62.5 ml/hr

$$(b) 10\text{hrs} = 62.5 \times 10$$

$$= 625 \text{ (move d.p. 1 place to right)}$$

8

$$\frac{15}{600} \times \frac{1}{1}$$

factorise 600
6 x 100

$$\frac{0.25}{6 \sqrt{15 \cdot 30}}$$

$$2.5 \div 100 = 0.025$$

Answer 0.025ml

9

$$12 \times 10 = 120$$

$$\frac{120}{100} \times \frac{5}{1} = 1.2 \times 5 = 1.2 \times \frac{5}{6} = 1$$

Alternative:

$$\frac{120}{100} \times \frac{5}{1} = \frac{12}{10} \times \frac{5}{1} = \frac{12}{2} = 6$$

Cross division

Answer 6ml

10

$$3 \overline{) 24} \begin{array}{r} 08 \\ \underline{24} \\ 00 \end{array}$$

$$\frac{75}{4 \times 8}$$

Answer 600ml

11

$$\frac{30}{50} \times \frac{1}{1} = \frac{3}{5} = 0.6$$

Answer 0.6ml

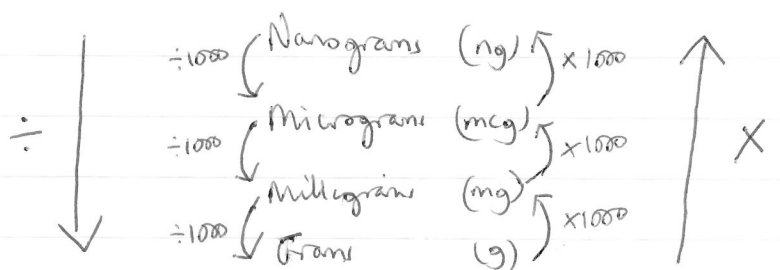
$$\frac{0.6}{5 \sqrt{3 \cdot 5}}$$

12

$$\frac{250 \text{ mg}}{1 \text{ g}} \times \frac{10}{1} = \frac{250}{1000} \times \frac{10}{1} = \frac{25}{100} \times \frac{10}{1} = 0.25 \times 10 = 2.5$$

(20 tablets)

NEED TO CONVERT!



$$(13) \quad \frac{60}{50} \times \frac{5}{1} = \frac{6}{5} \times \frac{5}{1} = 6 \quad \boxed{\text{Answer}} \quad 6 \text{ ml}$$

Alternative: $\frac{6}{5} \times 5 = 5 \overline{) 6.0} \times 5 = \begin{array}{r} 1.2 \\ \underline{1 \times 5} \\ 6.0 \end{array}$

borrow 1 from tens

$$(14) \quad \begin{array}{r} 3.0 \\ -2.6 \\ \hline 0.4 \end{array} \quad \boxed{\text{Answer}} \quad 0.4 \text{ kg}$$

$$(15) \quad \frac{15}{5} \times 1 = 3 \text{ ml} \quad \boxed{\text{Answer}} \quad 3 \text{ ml}$$

(16) Use chart from previous page:

$$\begin{aligned} 360 \text{ mcg} \rightarrow \text{mg} &= 360 \div 1000 \\ &= \cancel{360} \\ &= 0.360 \text{ mg} \end{aligned}$$

$$\begin{aligned} 15 \text{ g} \rightarrow \text{mg} &= 15 \times 1000 \\ &= 15000 \text{ mg} \end{aligned}$$

Dividing by decimals

eg. $1 \div 2.5 = \frac{1}{2.5}$

$$\frac{1}{2.5} \begin{matrix} \times 10 \\ \times 10 \end{matrix} = \frac{10}{25}$$

$$5 \overline{) 10} \qquad 5 \overline{) 0.4}$$

(a) Convert decimal into whole number
NB you must do the same function to both top and bottom i.e. if you $\times 2.5$ by 10 then $\times 1$ by 10.

b, factorise 25

$$\begin{array}{c} 25 \\ \swarrow \quad \searrow \\ 5 \quad \times \quad 5 \end{array}$$

so you have to divide 10 by 5, then divide your answer by 5.

c, Answer 0.4

* Alternative $\frac{1}{2.5} \begin{matrix} \times 10 \\ \times 10 \end{matrix} = \frac{10}{2.5} = 4$ bit more d.p. back = 0.4
ie $\div 10$ again to cancel out $\times 10$

This method is only advantageous if you're confident at mental division, eg knowing that there are 4 2.5s in 10.

If you have any suggestions for types of questions you'd like guidance with, then please contact:

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If you wish to arrange a small group session to target specific difficulties then get in touch.