

$$15 \text{ b. } \frac{2x+7}{x-4} = -1$$

$$\cancel{(x-4)} \frac{(2x+7)}{\cancel{(x-4)}} = (-1) \cancel{(x-4)}$$

$$\begin{array}{r} 2x + 7 = -x + 4 \\ +x \qquad \qquad +x \\ \hline \end{array}$$

$$\begin{array}{r} 3x + 7 = 4 \\ -7 \qquad \qquad -7 \\ \hline \end{array}$$

$$\begin{array}{r} 3x = -3 \\ \underline{3} \qquad \qquad \underline{3} \end{array}$$

$$\boxed{x = -1}$$

$$11(i) \quad 5x - 4(4-x) = x + 12$$

$$5x - 16 + 4x = x + 12$$

$$\begin{array}{r} 9x - 16 = x + 12 \\ -x \quad \quad -x \end{array}$$

$$\begin{array}{r} 8x - 16 = 12 \\ +16 \quad +16 \end{array}$$

$$\frac{8x}{8} = \frac{28}{8}$$

$$x = \frac{28}{8} = \frac{7}{2}$$

$$\boxed{x = \frac{7}{2}}$$

$$145) \quad \frac{7}{3x} = \frac{-4}{1}$$

$$\begin{aligned} -12x &= 7 \\ \frac{-12x}{-12} &= \frac{7}{-12} \\ x &= -\frac{7}{12} \end{aligned}$$

$$146) \quad \frac{3}{x} = \frac{2}{3}$$

$$\begin{aligned} 2x &= 9 \\ x &= \frac{9}{2} \end{aligned}$$

Ratios

- comparison
- must have same units

Write as a ratio:

a) \$ 8 to \$ 3

8:3

or $\frac{8}{3}$

\$ 2 to 75¢

200¢ to 75¢

$\frac{200}{25} : \frac{75}{25}$

* give in simplest form

8:3

$$0.03 : 0.12$$

$$\times 100 \quad \times 100$$

* multiply by 100

$$3 : 12$$

divide by 3

$$1 : 4$$

1. d) £3 to 50 pence

£3 to £0.5

3 : 0.5

$\times 10$
30 : 5

$\div 5$ $\div 5$

6 : 1

e) 500 mL to 3 L

500 mL to 3000 mL

500 : 3000

$\div 500$ $\div 500$

1 : 6

1 g.) 9 km to 150 m

9000 m to 150 m

$$\begin{array}{r} 9000 : 150 \\ \div 150 \quad \div 150 \end{array}$$

60 : 1

$$2.5 \text{ km} = 2500 \text{ m}$$

$$0.5 \text{ km} = 500 \text{ m}$$

$$1 \text{ km} = 1000 \text{ m}$$

$$2 \text{ km} = 2000 \text{ m}$$

$$4a) \quad 2 : 3 = 8 : x$$

$$2 : 3 = 8 : 12$$

$$2 : 3 = 8 : x$$

$$\frac{2}{3} = \frac{8}{x}$$

$$\frac{2}{2} \cdot \frac{2}{3} = \frac{2}{2} \cdot \frac{8}{x}$$

$$x = 12$$

OR

$$\frac{2}{3} = \frac{8}{x}$$

$$2x = 24$$

$$x = 12$$

Question 5:

$$\square = x$$

DO #1-5