

10.1 Modelling & Solving One-Step Equations:

Communicate the Ideas

$$ax = b \quad x/a = b$$

1. Five times a number is -15 .
 - a) Write an equation for this sentence. _____
 - b) Draw a picture to show how to find the unknown number.

2. Raj is solving the equation $\frac{n}{9} = -4$.


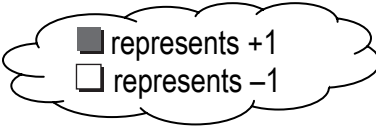
$$\begin{aligned} \frac{n}{9} &= -4 \\ \frac{n}{9} \times (-9) &= -4 \times (-9) \\ n &= 36 \end{aligned}$$

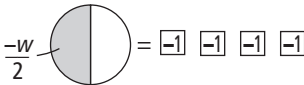
Raj's solution is wrong. Explain where he made his mistake.

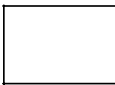
Check Your Understanding

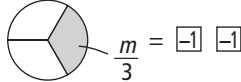
Practise

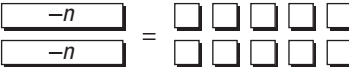
3. Write the equation modelled by each diagram.

a) 


b) 

 $t =$ _____

c) 

d) 

$\frac{m}{3} =$ _____

4. Solve by inspection.



a) $-2j = 12$

b) $5n = -25$

5. Solve each equation using the opposite operation. Check your answers.

a) $4s = -12$

b) $-36 = -3j$

Check:

Left Side	Right Side

Check:

Left Side	Right Side

c) $\frac{t}{3} = -8$

d) $9 = \frac{x}{-10}$

Check:

Left Side	Right Side

Check:

Left Side	Right Side

Apply

6. Nakasuk's snowmobile can travel for 13 km on 1 L of gas.



a) How far can he travel on 2 L of gas?

b) How far can he travel on 3 L of gas?

c) How far can he travel on 10 L of gas?

d) Nakasuk visits his aunt who lives 312 km away.
How many litres of gas will he need?
Use the equation $13x = 312$ to help you.



7. Lucy is making 2 pairs of mittens.
She has 72 cm of trim to sew around the cuffs.
How much trim does she have for each mitten?



a) How many mittens in total is she making? _____

b) Let t represent the amount of trim for 1 mitten.

Equation to find the amount of trim for 1 mitten: $t =$ _____

c) Solve the equation to find the amount of trim for 1 mitten.



Sentence: _____