

Worksheet (2) | Lower Secondary Stage (6-8)

1st Semester | 2023-2024

Subject: Math

Class : Grade 7

Name:.....

Objectives:

- Construct and Solve linear equations with brackets.

Teacher's name

When solving equations it is important that whatever is done to one side of the equation is done to the other side

Exercise 1: Solve the following equations :

$$1) \frac{3}{3} (x + 1) = \frac{21}{3}$$

$$x + 1 = 7$$

$$\boxed{x = 6}$$

$$2) \frac{4}{4} (2x - 6) = \frac{8}{4}$$

$$2x - 6 = 2$$

$$2x = 8$$

$$\boxed{x = 4}$$

$$3) 2(x + 1) + 4x = 14$$

$$\underline{2x} + 2 + \underline{4x} = 14$$

$$6x = 12$$

$$\boxed{x = 2}$$

$$4) 5(3+x) = 7x$$

$$15 + 5x = 7x$$

$$\frac{15}{2} = \frac{2x}{2}$$

$$7.5 = x$$

$$5) 3(x-4) = 2(x+5)$$

$$3x - 12 = 2x + 10$$

$$x = 22$$

$$6) 7(m+3) = 4(m+6)$$

$$7m + 21 = 4m + 24$$

$$3m = 3$$

$$m = 1$$

$$7) 3(2x-1) + 7 = 16$$

$$-7 \quad -7$$

$$\textcircled{1} \frac{3(2x-1)}{3} = \frac{9}{3}$$

$$2x - 1 = 3 \quad 2x = 4$$

$$x = 2$$

$$\textcircled{2} 6x - 3 + 7 = 16$$

$$6x + 4 = 16$$

$$6x = 12$$

$$x = 2$$

$$8) 2(5x) + 2(x+1) = 6$$

$$10x + 2x + 2 = 6$$

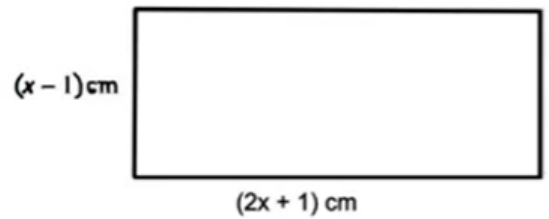
$$12x = 4$$

$$x = \frac{4}{12}$$

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

Exercise 2 :

The perimeter of this rectangle is **30cm** , write an equation and solve it to find the value of x .



$$\begin{aligned} P &= 2L + 2W \\ 30 &= 2(2x+1) + 2(x-1) \\ 30 &= 4x + 2 + 2x - 2 \\ 30 &= 6x \\ 5 &= x \end{aligned}$$

PERIMETER
of a Rectangle

Formula:

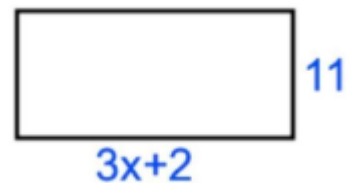
$$P = 2L + 2W$$

where P stands for Perimeter, L for Length and W for Width

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Exercise 3 :

If the area of this rectangle is **55cm²** , write an equation and solve it to find the value of x .



$$\begin{aligned} A &= L * W \\ 55 &= 11 * (3x+2) \\ 5 &= 3x+2 \\ 3 &= 3x \\ x &= 1 \end{aligned}$$

