

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.

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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 :

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

$$x+1=7$$

$$x=6$$

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

$$2x-6=2$$

$$2x=8$$

$$x=4$$

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

$$2x+2+4x=14$$

$$6x=12$$

$$x=2$$

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

$$15 + 5x = 7x$$

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

$$7.5 = x$$

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

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

$$x = 22$$

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

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

$$3m = 3$$

$$m = 1$$

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

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

$$2x - 1 = 3$$

$$2x = 4$$

$$x = 2$$

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

$$6x + 4 = 16$$

$$6x = 12$$

$$x = 2$$

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

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

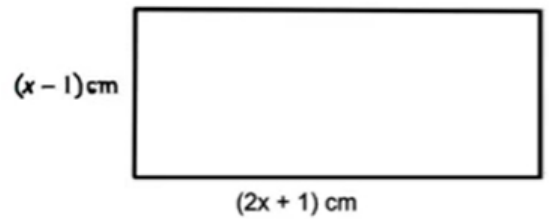
$$12x = 4$$

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

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

Exercise 2 :

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



$$P = 2L + 2W$$
$$30 = 2(2x+1) + 2(x-1)$$
$$30 = 4x + 2 + 2x - 2$$
$$30 = 6x$$
$$\boxed{5 = x}$$

PERIMETER of a Rectangle

Diagram of a rectangle with length L and width W .

Formula:

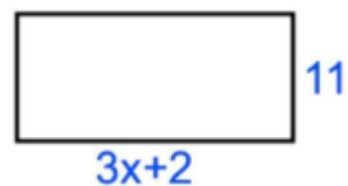
$$P = 2L + 2W$$

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 .



$$A = L * W$$
$$\frac{55}{11} = \frac{11}{11} * (3x+2)$$
$$5 = 3x + 2$$
$$3 = 3x \quad \boxed{x = 1}$$

