

Class 10 Mathematics - Pair of Linear Equations in Two Variables

Name: _____

Date: _____

Advanced Worksheet 3

Questions

1. The sum of two numbers is 27 and their difference is 5. Find the numbers.
2. A father is 24 years older than his son. The sum of their ages is 48 years. Find their ages.
3. Two pens and three pencils cost ₹39. Three pens and one pencil cost ₹33. Find the cost of a pen and a pencil.
4. The perimeter of a rectangle is 54 cm. Its length is 5 cm more than its breadth. Find its dimensions.
5. Why are pair of linear equations useful in real-life situations?
6. Which algebraic method would you prefer for Question 3 and why?

Answer Key

1.

$$x + y = 27$$

$$x - y = 5$$

$$2x = 32$$

$$x = 16$$

$$y = 11$$

Numbers are 16 and 11.

2.

$$\text{Father} = x$$

$$\text{Son} = y$$

$$x - y = 24$$

$$x + y = 48$$

$$2x = 72$$

$$x = 36$$

$$y = 12$$

$$\text{Father} = 36 \text{ years}$$

$$\text{Son} = 12 \text{ years}$$

3.

$$2p + 3c = 39$$

$$3p + c = 33$$

$$p = 9$$

$$c = 7$$

$$\text{Pen} = ₹9$$

$$\text{Pencil} = ₹7$$

4.

$$2(l + b) = 54$$

$$l + b = 27$$

$$l = b + 5$$

$$2b + 5 = 27$$

$$b = 11$$

$$l = 16$$

$$\text{Length} = 16 \text{ cm}$$

$$\text{Breadth} = 11 \text{ cm}$$

5. They help solve problems involving two unknown quantities.
6. Elimination Method, because coefficients can be adjusted easily.

