Equations Reducible to Linear Form

## A. Choose the Correct Answer:

1. The equation $\frac{2x-3}{5} = \frac{x+1}{2}$ is reducible to linear form by:

a) Cross–multiplication   b) Addition

c) Subtraction   d) Division

2. The first step in solving $\frac{3x+2}{4} = \frac{2x-1}{3}$ is:

a) Add 3 to both sides   b) Multiply both sides by 12

c) Subtract 2x from both sides   d) Divide by 2

3. To solve $\frac{5x-7}{3} + \frac{x+2}{2} = 4$, we first:

a) Take LCM and simplify   b) Add directly

c) Cross–multiply   d) Divide by 5

4. $\frac{x+3}{2} = \frac{x-5}{3}$ can be solved by:

a) Adding 5 on both sides   b) Multiplying by 5

c) Cross–multiplying   d) Dividing by 6

5. Which of the following equations is reducible to linear form?

a) $x^2 + 2x = 3$ b) $\frac{x+4}{5} = \frac{2x-1}{3}$

c) $2x^3 - 5 = 0$ d) $x^4 = 16$

B. Write the Missing Terms to Complete the Sentences:

1. Equations like $\frac{ax+b}{m} = \frac{cx+d}{n}$ are solved by _____.

2. The first step to solve $\frac{2x+5}{3} = \frac{x-1}{4}$ is _____ both sides by 12.

3. Cross–multiplying results in a _____ equation.

4. The method used to solve reducible linear equations is _____ operations.

5. $\frac{3x-2}{5} = \frac{2x+1}{4}$ is solved by _____ and simplifying.

C. Figure out the answers to these questions:

1. Solve $\frac{x+5}{2} = \frac{x-3}{4}$

2. Solve $\frac{2x-1}{3} = \frac{x+4}{5}$

3. Solve $\frac{5x-6}{7} + \frac{x+2}{3} = 5$
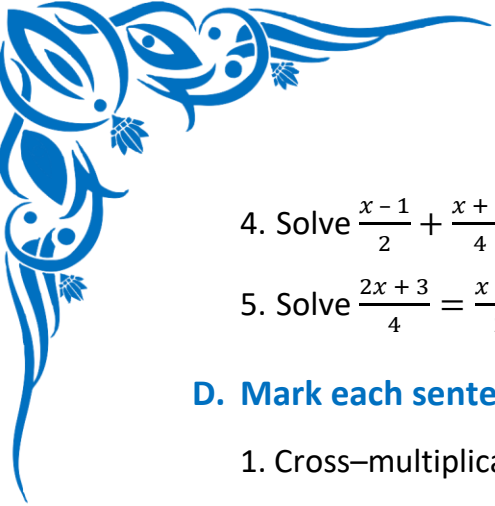
4. Solve $\dfrac{x-1}{2} + \dfrac{x+3}{4} = 5$

5. Solve $\dfrac{2x+3}{4} = \dfrac{x-1}{2}$

D. Mark each sentence with a True (✔) or False (✗):

1. Cross–multiplication is used to solve equations reducible to linear form. _____

2. In reducible equations, both sides must be polynomials of degree 2. _____

3. $\dfrac{x+1}{2} = \dfrac{2x-3}{5}$ is an equation reducible to linear form. _____

4. The LCM is used when fractions are added or subtracted. _____

5. Reducible linear equations always involve cross–products. _____

E. Challenge yourself with these questions:

1. Solve $\dfrac{2x+3}{5} = \dfrac{3x-2}{4}$

2. Solve $\dfrac{x-2}{3} + \dfrac{x+1}{2} = 7$

3. Solve $\dfrac{3x-4}{6} = \dfrac{5x+2}{8}$

4. Solve $\dfrac{2x+5}{7} + \dfrac{x-3}{5} = 2$

5. Solve $\dfrac{5x+1}{3} = \dfrac{2x-4}{5}$