

Exercises for Linear Equations

1. Solve the equations:

(a) $5x - 6 = 5x + 4$

(b) $3x = 2x - 11$

(c) $5x - 3 = 2(x - 1) + 3x - 1$

(d) $2(x - 7) = -(2x - 1) - 2$

(e) $2(x + 3) + 3x - 1 = -3(5x - 2) - 2 + 4x$

2. Find all real numbers a for which, $x = -3$ is a solution of the equation:

$$2x + a = -7$$

3. Find all real numbers c for which the following equation is a tautology:

$$2(x - 2) = 2x + c$$

4. Find all real numbers b for which the following equation is a contradiction:

$$5x - 7 = 5x + b$$

5. Find c if $x = -2$ is a solution of the equation:

$$cx^2 - 2x + c = 0$$