

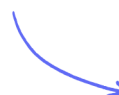
Exam Questions

Linear Equations

Solving Linear Equations

Easy (16 questions)	/43
Medium (13 questions)	/44
Hard (10 questions)	/37
Total Marks	/124

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Easy Questions

1 (a) Solve $3(x - 2) = x + 7$

(3 marks)

(b) Solve $\frac{2 - y}{5} = 1$

(2 marks)

2 (a) Simplify $5x + 4y + x - 7y$

(2 marks)

(b) Solve $7(x + 2) = 7$

(2 marks)

3 (a) $x = 3$

Work out the value of $4x^2$

(1 mark)

(b) Solve $5x + 4 = 14 + x$

(2 marks)

4 Solve $4(x + 3) = 2x + 8$

(3 marks)

5 Solve $5x - 6 = 3(x - 1)$

(3 marks)

6 Steve is asked to solve the equation $5(x + 2) = 47$

Here is his working.

$$5(x + 2) = 47$$

$$5x + 2 = 47$$

$$5x = 45$$

$$x = 9$$

Steve's answer is wrong.

What mistake did he make?

(1 mark)

7 Solve $5(4 - x) = 7 - 3x$

Show clear algebraic working.

$$x = \dots\dots\dots$$

(3 marks)

8 Solve $y = \frac{2y + 1}{5}$

Show clear algebraic working.

$$y =$$

(3 marks)

9 Solve $4x - 13 = 17 + 8x$

$$x = \dots\dots\dots$$

(2 marks)

10 Solve $5(x + 3) = 3x - 4$

Show clear algebraic working.

$$x = \dots\dots\dots$$

(2 marks)

11 Solve $10x = 62.4 - 3x$

(2 marks)

12 Solve $3x = 2x$

A. $x = -1$

B. $x = 0$

C. $x = \frac{2}{3}$

D. $x = \frac{3}{2}$

(1 mark)

13 Solve.

$$4x + 3 = 13$$

$$x = \dots\dots\dots$$

(2 marks)

14 Solve.

$$6x - 10 = 4x + 1$$

$$x = \dots\dots\dots$$

(3 marks)

15 Solve.

$$\frac{6x - 10}{5} = 1$$

$x =$

(3 marks)

16 Solve.

$$6x + 2 = 5 - 4x$$

$x =$

(3 marks)

Medium Questions

1 Solve $\frac{5w - 8}{3} = 4w + 2$

(3 marks)

2 Solve $\frac{4(8x - 2)}{3x} = 10$

(3 marks)

3 Solve $\frac{15 - x}{5} = 3x + 11$

(3 marks)

4 (a) Solve $7(k - 3) = 3k - 5$

(3 marks)

(b) Solve $\frac{7 - 3f}{4} = 2$

(3 marks)

5 Solve $\frac{11 - w}{4} = 1 + w$

(3 marks)

6 Solve $\frac{5 - x}{2} = 2x - 7$

(3 marks)

7 Solve $6x - 5 = \frac{4x - 7}{2}$

Show clear algebraic working.

x =

(3 marks)

8 Solve $4 - 3x = \frac{5 - 8x}{4}$

Show clear algebraic working.

$x = \dots\dots\dots$

(3 marks)

9 Solve $3(2x - 5) = \frac{9 - x}{2}$

Show clear algebraic working.

$x = \dots\dots\dots$

(4 marks)

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

Show clear algebraic working.

$x = \dots\dots\dots$

(3 marks)

11 Solve $\frac{x+15}{3} = 2(x+10)$

(4 marks)

12 Solve $4(3x - 2) = 2x - 5$

$x = \dots\dots\dots$

(3 marks)

13 Solve.

$$\frac{x}{x+6} = 5$$

$x = \dots\dots\dots$

(3 marks)

Hard Questions

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

(3 marks)

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

(4 marks)

3 Solve $\frac{x + 2}{3x} + \frac{x - 2}{2x} = 3$

(3 marks)

4 (a) Solve $5(f - 3) = f + 10$

(3 marks)

(b) Solve $\frac{h+7}{3} + \frac{2h-1}{2} = \frac{5}{6}$

(4 marks)

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

(4 marks)

6 Solve $\frac{9a-7}{5} - \frac{3a-7}{4} = 4.55$

Show clear algebraic working.

a =

(3 marks)

7 The functions f and g are defined as

$$f(x) = x^2 + 6$$

$$g(x) = x - 10$$

Solve the equation $fg(x) = f(x)$

Show clear algebraic working.

(3 marks)

8 Solve $(2x + 5)^2 = (2x + 3)(2x - 1)$

$x =$

(3 marks)

9 Solve $\frac{8-2x}{3} - \frac{2x-3}{2} = 4$

Show clear algebraic working.

$x =$

(3 marks)

10 Solve the equation.

$$3(x-4) + \frac{x+2}{5} = 6$$

$x =$

(4 marks)