

check join 2

1. Solve the following equations.

(a) $x + 9 = 20$

(b) $x - 8 = 10$

(c) $y - 2 = -8$

$x + 9 - 9 = 20 - 9$

$x - 8 + 8 = 10 + 8$

$y - 2 + 2 = -8 + 2$

$x = 11$

$x = 18$

$y = -6$

(d) $x - \frac{3}{4} = \frac{1}{2}$

(e) $x + 1.6 = 2.4$

(f) $x + \frac{1}{2} = 2$

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

$x + 1.6 - 1.6 = 2.4 - 1.6$

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

$x = \frac{3}{2} \times \frac{2}{2} + \frac{3}{4}$

$x = 0.8$

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

$x = \frac{6}{4} + \frac{3}{4}$

$x = \frac{2 \times 2}{2} - \frac{3}{2}$

$x = \frac{9}{4}$

$x = \frac{4}{2} - \frac{3}{2}$

$x = 2\frac{1}{4}$

$x = \frac{1}{2}$

(g) $y + 80 = 120$

(h) $m + 6 = -4$

(i) $m - 7.1 = -8.4$

$y + 80 - 80 = 120 - 80$

$m + 6 - 6 = -4 - 6$

$m - 7.1 + 7.1 = -8.4 + 7.1$

$y = 40$

$m = -10$

$m = -1.3$

2. Solve the following equations.

(a) $2x = 11$

(b) $4x = 20$

(c) $3x = -24$

(d) $6x = 24$

$\frac{2x}{2} = \frac{11}{2}$

$\frac{4x}{4} = \frac{20}{4}$

$\frac{3x}{3} = \frac{-24}{3}$

$\frac{6x}{6} = \frac{24}{6}$

$x = \frac{11}{2}$

$x = 5$

$x = -8$

$x = 4$

(e) $\frac{x}{3} = 1.2$

(f) $\frac{x}{5} = 5$

(g) $\frac{x}{2} = -7$

(h) $\frac{2}{5}m = 10$

$\frac{x}{3} \times 3 = 1.2 \times 3$

$\frac{x}{5} \times 5 = 5 \times 5$

$\frac{x}{2} \times 2 = -7 \times 2$

$\frac{2}{5} \times 5 m = 10 \times 5$

$x = 3.6$

$x = 25$

$x = -14$

$\frac{2m}{2} = \frac{50}{2}$

$m = 25$

(i) $\frac{3m}{4} = -6$

$\frac{3m}{4} \times 4 = -6 \times 4$

$3m = -24$

$m = -8$

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3. Solve the following equations

(a) $2x - 1 = 9$

$$2x - 1 + 1 = 9 + 1$$

$$2x = \frac{10}{2}$$

$$x = 5$$

(b) $5(2-x) - 3(4-2x) = 20$

$$10 - 5x - 12 + 6x = 20$$

$$8 + 01 - 5x + 6x + 10 - 12 = 20$$

$$x - 2 + 2 = 20 + 2$$

$$x = 22$$

(c) $2m + 4 - 3m = 8(m-1)$

$$2m + 4 - 3m = 8m - 8$$

$$2m - 3m + 4 = 8m - 8$$

$$2m - 3m + 4 - 4 = 8m - 8 - 4$$

$$-m - 8m = -8 - 4$$

(d) $\frac{x+1}{4} = 5$

$$\frac{x+1}{4} \times 4 = 5 \times 4$$

$$x + 1 - 1 = 20 - 1$$

$$x = 19$$

(e) $\frac{2x-1}{3} = 5$

$$\frac{2x-1}{3} \times 3 = 5 \times 3$$

$$2x - 1 + 1 = 15 + 1$$

$$\frac{2x}{2} = \frac{16}{2}$$

$$x = 8$$

(f) $\frac{x}{5} + \frac{x}{3} = 10$

$$\frac{3x}{15} + \frac{5x}{15} = 10$$

$$\frac{8x}{15} \times 15 = 10 \times 15$$

$$\frac{8x}{8} = \frac{150}{8} \frac{75}{4}$$

$$x = \frac{75}{4}$$

$$x = 18 \frac{3}{4}$$

$$\frac{18}{4} \frac{4}{3} \frac{36}{3}$$

(g) $5(y+2) - 4(y-1) = 6$

$$5y + 10 - 4y + 4 = 6$$

$$5y - 4y + 10 + 4 = 6$$

$$y + 14 - 14 = 6 - 14$$

$$y = -8$$

(h) $4(y+3) - 2y = 7$

$$4y + 12 - 2y = 7$$

$$4y - 2y + 12 - 12 = 7 - 12$$

$$\frac{2y}{2} = \frac{-5}{2}$$

$$y = \frac{-5}{2}$$

4. Find the value of y for the following equations:

(a) $2x - y = -10$ given $x = 1$

$$2(1) - y = -10$$

$$2 - y = -10$$

$$2 - 2 - y = -10 - 2$$

$$-y = -12$$

$$\frac{-y}{-1} = \frac{-12}{-1}$$

$$y = 12$$

(b) $2y - x - (x - 2) = 10$ given $x = 2$

$$2y - 2 - (2 - 2) = 10$$

$$2y - 2 = 10$$

$$2y - 2 + 2 = 10 + 2$$

$$\frac{2y}{2} = \frac{12}{2}$$

$$y = 6$$