



CLASS NOTES-ANSWERS

EXERCISE 2.3

1. Solve the following equations and check your results.

a. $3x = 2x + 18$

b. $5t - 3 = 3t - 5$

c. $5x + 9 = 5 + 3x$

d. $4z + 3 = 6 + 2z$

e. $2x - 1 = 14 - x$

f. $8x + 4 = 3(x - 1) + 7$

g. $x = \frac{4}{5}(x + 10)$

h. $\frac{2x}{3} + 1 = \frac{7x}{15} + 3$

i. $2y + \frac{5}{3} = \frac{26}{3} - y$

j. $3m = 5m - \frac{8}{5}$

Answer:

a. $3x = 2x + 18$

Subtracting $2x$ on both sides

$$3x - 2x = 2x - 2x + 18$$

$$x = 18$$

b. $5t - 3 = 3t - 5$

$$5t - 3t = -5 + 3$$

$$2t = -2$$

$$t = -1$$

c. $5x + 9 = 5 + 3x$

$$5x - 3x + 9 = 5 + 3x - 3x$$

$$2x + 9 = 5$$

$$2x = 5 - 9$$

$$2x = 4$$

$$x = 2$$

d. $4z + 3 = 6 + 2z$

$$4z - 2z = 6 - 3$$





$$2z = 3$$

$$z = \frac{3}{2}$$

e. $2x - 1 = 14 - x$

$$2x - 1 = 14 - x$$

$$2x + x - 1 = 14 - x + x$$

$$3x - 1 = 14$$

$$3x = 15$$

$$x = 5$$

f. $8x + 4 = 3(x - 1) + 7$

$$8x + 4 = 3 \times x + 3 \times (-1) + 7$$

$$8x + 4 = 3x - 3 + 7$$

$$8x + 4 = 3x + 4$$

$$8x = 3x + 4 - 4$$

$$8x = 3x$$

$$8x - 3x = 3x - 3x \quad 5x = 0$$

$$x = 0$$

g. $x = \frac{4}{5}(x + 10)$

$$5x = 4(x + 10)$$

$$5x = 4x + 40$$

$$5x - 4x = 4x - 4x + 40$$

$$x = 40$$

h. $\frac{2x}{3} + 1 = \frac{7x}{15} + 3$





$$\frac{2x}{3} - \frac{7x}{15} = 3 - 1$$

$$\frac{2x}{3} - \frac{7x}{15} = 2$$

$$\frac{4x - 7x}{15} = 2$$

$$\frac{3x}{15} = 2$$

$$3x = 30$$

$$x = 10$$

i. $2y + \frac{5}{3} = \frac{26}{3} - y$

$$2y + y = \frac{26}{3} - \frac{5}{3}$$

$$3y = \frac{26 - 5}{3}$$

$$3y = \frac{21}{3}$$

$$3y = 7$$

$$y = \frac{7}{3}$$

j. $3m = 5m - \frac{8}{5}$

$$5m - 3m = \frac{8}{5}$$

$$2m = \frac{8}{5}$$

$$m = \frac{4}{5}$$

