

CHAPTER 11

SIMPLE LINEAR EQUATIONS

More Questions for Practice

1. Solve the following equations and check the answers:

(a) $-x + 5 = 3$

(b) $3(9 - 7x) = 6$

(c) $2x - \frac{1}{2} = 2$

2. Solve the following equations and also check the solutions:

(a) $3x - \frac{5}{3} = x - 3$

(b) $x = 2x - \frac{4}{5}$

(c) $\frac{2x+5}{3} = 3x - 8$

(d) $\frac{6x+1}{2} - 1 = \frac{6x-3}{3}$

(e) $\frac{5}{3}z - \left(3 - \frac{8}{3}z\right) = 10 - \left\{\frac{5}{3}z - \left(15 + \frac{10}{3}z\right)\right\}$

3. Solve the following equations:

(a) $\frac{x}{6} + 2 = \frac{1}{18}$

(b) $7(m - 9) + 3(m - 1) + 4\left(2m - \frac{3}{2}\right) = \frac{5}{2}$

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

(d) $3x - \{7.5 - 4(x - 2.5)\} = x - 7.5$

4. One of the two numbers exceeds the other by 7 and if we add 4 times the smaller to 5 times the greater, we get 143. Find the numbers.
5. A man purchased some tables at ₹ 70 each and some chairs at ₹ 45 each. If the total pieces of the furniture purchased are 13 and their total cost is ₹ 760, find how many tables and chairs did he buy?
6. There are some 50 paise and some 25 paise coins in Iqbal's piggy bank. If the total number of coins is 25 and their total value is ₹ 8.50, find the number of coins of each kind in his piggy bank.
7. A rope 250 cm long is cut into four parts such that the first part is twice as long as the second, the second is 10 cm longer than the third and the third is 5 cm shorter than the fourth. Find the length of each part.
8. The difference of two numbers, one of which is one-fourth of the other, is $\frac{3}{5}$. Determine the numbers.
9. The numerator of a fraction is less than its denominator by 2. If 1 is added to both the numerator and the denominator, the fraction obtained is $\frac{2}{3}$. Find the fraction.
10. Write the equation $-11x + \left(\frac{2}{3}x - 3\right) = 2\left(\frac{x}{3} + 1\right)$ in the form $ax + b = 0$.
11. A bus is carrying 45 passengers, some with 50-paise tickets and the remaining with 1-rupee tickets. If the total fare received from all these passengers is ₹ 32.50, find the number of passengers with 50-paise tickets.

12. The volume of a cuboid is given by the product of its length, breadth and height. The length of a cuboid is 3 times its breadth and the height is one-half of the length. Find its volume if its breadth is b cm.
13. The length of a rectangle exceeds its breadth by 3 cm. If both the length and the breadth are increased by 10 cm, the area of new rectangle will be 510 sq cm more than that of the given rectangle. Find the length and breadth of the given rectangle.

ANSWERS

1. (a) $x = 2$ (b) $x = 1$ (c) $x = \frac{5}{4}$
2. (a) $x = \frac{-2}{3}$ (b) $x = \frac{4}{5}$ (c) $x = \frac{29}{7}$ (d) $x = -\frac{1}{2}$ (e) $z = \frac{21}{2}$
3. (a) $x = \frac{-35}{3}$ (b) $m = 4\frac{5}{36}$ (c) $x = \frac{35}{9}$ (d) $x = \frac{5}{3}$
4. 12 and 19 5. 7 tables and 6 chairs
6. Nine 50 paise coins and sixteen 25 paise coins 7. 106 cm, 53 cm, 43 cm, 48 cm
8. $\frac{1}{5}$ and $\frac{4}{5}$ 9. $\frac{3}{5}$ 10. $11x + 5 = 0$ 11. 25
12. $\frac{9}{2}b^3$ cu cm 13. 22 cm and 19 cm.

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