STUDY mate
helps excel in boards

Chapter End Test

(2019-20)

Date : _____ Duration : 45 Min. Max. Marks : 25	**Mathematics** **Topic:** Linear Equations in One Variable	**Class** **VIII**

Instructions:

- All questions are compulsory.
- Section A is comprised of 15 multiple choice questions carrying 1 mark each.
- Section B is comprised of 3 questions carrying 3, 3 and 4 marks respectively.
- Use of calculator is not permitted.
- Objectives of test paper. (i) To assess the conceptual understanding of students. (ii) To make them attempt subjective questions as required in CBSE Board Exam.

Section – A

1. A linear equation in one variable has:
(a) no solution (b) only one solution
(c) two solutions (d) more than two solutions

2. The highest power of the variable in a linear equation is:
(a) one (b) two (c) three (d) none

3. The value of x for which the expressions $9x + 4$ and $7x + 10$ become equal is:
(a) 3 (b) 6 (c) 9 (d) 0

4. What is the product of solutions of the equations $3x + 19 = 29x + 4$ and $2x + 3 = 3$?
(a) 7 (b) 19 (c) 29 (d) 0

5. The value of x for the equation $3x - 4 = 2x + 1$ is:
(a) –3 (b) 0 (c) 5 (d) 1

6. Sum of two numbers is 84. One of the numbers is 20 more than the other. The smaller number is:
(a) 18 (b) 21 (c) 32 (d) 47

7. The perimeter of a rectangle is 60 cm. What is its length if its breadth is 10 cm?
(a) 10 cm (b) 15 cm (c) 50 cm (d) 20 cm

8. Pratap has 3 times as many two rupee coins as he has five rupee coins. He has a total sum of Rs. 77. How many coins of each denomination does he have?
(a) 7, 31 (b) 21, 7 (c) 10, 12 (d) not possible

9. Two numbers are in the ratio 3 : 2 and the difference between them is 9. Find the numbers.
(a) 12, 8 (b) 18, 9 (c) 30, 21 (d) 27, 18

10. The solution for which of the following linear equations is neither a fraction nor an integer.
(a) $6x + 12 = 0$ (b) $4x + 5x = 0$ (c) $6x + 17 = 2x + 10$ (d) None of these

11. If $16x - 9 = 50 + 34x$, then x is:
(a) a fraction (b) a rational number (c) integer (d) none

12. $3x -$ _____ $= -7$, fill in the blank if the solution of this equation is –2.
(a) 1 (b) 0
(c) 3 (d) cannot be calculated

13. Three consecutive numbers add to 24. Find the numbers.

(a) 6, 8, 10 (b) 7, 8, 9 (c) 10, 11, 12 (d) none

14. If $\frac{5x}{3} - 4 = \frac{2x}{5}$, then the numerical value of $2x - 7$ is:

(a) $\frac{19}{13}$ (b) $\frac{-13}{19}$ (c) 0 (d) $\frac{13}{19}$

15. The digit at ten's place of a two digit number is 3 more than the digit at the unit's place. If the digit at the unit's place is b, then the number is:

(a) 11b + 30 (b) 10b + 30 (c) 11b + 3 (d) 10b + 3

Section – B

1. Solve: $\frac{2x+1}{3x-2} = \frac{9}{10}$ **[3]**

2. $4(x + 3) - 2(x - 1) = 3x + 3$ **[3]**

3. Michael's father is 26 years younger than Michael's grandfather and 29 years older than Michael. The sum of the ages of all the three is 135 years. What is the age of each one of them? **[4]**

OR

A lady went to a bank to encash a cheque of ₹100000. She asked the cashier to give her ₹500 and ₹2000 notes in return. She got 170 notes in total. Find the number of each kind of notes she had.

STUDY mate
helps excel in boards

Hints/Solutions to Chapter End Test

(2019-20)

Date : _____ Duration : 45 Min. Max. Marks : 25	**Mathematics** **Topic:** Linear Equations in One Variable	**Class** **VIII**

Section – A

1.	(b)	**2.**	(a)	**3.**	(a)	**4.**	(d)
5.	(c)	**6.**	(c)	**7.**	(d)	**8.**	(b)
9.	(d)	**10.**	(d)	**11.**	(b)	**12.**	(a)
13.	(b)	**14.**	(b)	**15.**	(a)		

Section – B

1. $\frac{2x+1}{3x-2} = \frac{9}{10}$

By cross multiplication, we get

$10(2x + 1) = 9(3x - 2)$

$20x + 10 = 27x - 18$

$20x - 27x = -18 - 10$

$-7x = -28$

So, $x = 4$

2. $4(x + 3) - 2(x - 1) = 3x + 3$

$4x + 12 - 2x + 2 = 3x + 3$

$2x + 14 = 3x + 3$

$2x - 3x = 3 - 14$

$-x = -11$

So, $x = 11$

3. Let age of father be 'x' years.

age of grand father = $(x + 26)$ years

age of Michael = $(x - 29)$ years

ATQ: $x + (x + 26) + (x - 29) = 135$

$3x = 138$

So, $x = 46$

Michael's age = 17 years

Michael's father's age = 46 years

Michael's grand father's age = 72 years.

OR

Let no. of notes of ₹500 be x, so no. of notes of ₹2000 = $170 - x$

ATQ: $500x + 2000(170 - x) = 100000$

$500x + 340000 - 2000x = 100000$

$-1500x = -240000$

So, $x = 160$

No. of notes of ₹500 = 160

and no. of notes of ₹2000 = 10