



## STANDARD 8<sup>TH</sup>: CHAPTER 12

### Equations in one variable

#### Q.1. Choose the correct alternative.

1. Which of the following is not an equation in one variable?

- a.  $x + 2y = 6$
- b.  $3x - 4 = 7$
- c.  $5(x - 3) = 3(x + 2)$
- d.  $\frac{y-4}{3} + 3y = 4$

2. Solve for x :  $\frac{1}{3}(2x + 5) = \frac{2}{5}(3x - 4)$

- a.  $\frac{29}{8}$
- b.  $\frac{48}{8}$
- c.  $\frac{49}{8}$
- d.  $\frac{29}{8}$

3. A train travels from City A to City B at an average speed of 80 km/h. On the return journey, it travels at an average speed of 100 km/h. The total journey takes 6 hours. Find the distance between the two cities.

- a. 268.50km
- b. 256.78km
- c. 269 km
- d. 266.666...km

4. The length of a rectangle is 2cm more than its breadth. If its perimeter  $2(\text{length} + \text{breadth})$  is 24cm. Find its breadth.

- a. 5cm
- b. 10cm
- c. 6cm
- d. 4cm

5. Denominator of a rational number exceeds its numerator by 8. Then if 17 is added to the numerator and 1 is subtracted from the denominator then the rational number equivalent to  $\frac{3}{2}$ . Then the original rational number is \_\_\_\_\_.

- a.  $\frac{13}{21}$
- b.  $\frac{16}{21}$
- c.  $\frac{21}{13}$
- d.  $\frac{21}{16}$

6. In a test (+5) marks are given for every correct answer and (-2) marks are given for every Incorrect answer. Jay answered all questions and got (-12) marks though he answered 4 questions correctly. Then How many of his answers were Incorrect?

- a. 20
- b. 14
- c. 13
- d. 16

7. If 80% of my age 6 years ago is same as the 60% of my age after 10 years. What is the product of the digits of my present age.

- a. 24
- b. 20
- c. 30
- d. 54

8. Shirish won the lottery ticket and got  $\frac{1}{3}$ rd of the total lottery amount and spent  $\frac{1}{6}$ th of the amount he got on donation which is 6000 Rs. Find how much of the lottery was worth?

- a. 36000
- b. 85000
- c. 108000
- d. 100000

9.  $y^2 = y + 7$  then what is the value of  $y^3$

- a.  $4y - 7$
- b.  $8y - 7$
- c.  $4y + 7$
- d.  $8y + 7$

10. Pick the equation which has the solution in the form of prime number.
- $9y - 7 = 20$
  - $3y + 2 = 4$
  - $2y + 6 = 4$
  - $5y + 9 = 4$

**Q.2) Solve the following question.**

- The digits of a two-digit number differ by 4. If the digits are interchanged, and the resulting number is added to the original number, we get 152. What can be the original number?
- Jon is thrice as old as Kavya. Five years ago, his age was two times Kavya's age. Find their present age.
- Aaron is 5 years younger than Ron. Four years later, Ron will be twice as old as Aaron. Find their present ages
- If  $\frac{3}{5}$ th of a number is 4 more than  $\frac{1}{2}$  the number, then what is the number?
- The sum of three consecutive multiples of 4 is 444. Find these multiples
- A motorboat goes downstream in river and covers a distance between two coastal towns in 5 hours. It covers this distance upstream in 6 hours. If the speed of the stream is 3 km/hr, find the speed of the boat in still water.
- Arpan cut a cake in two equal parts and one of these two pieces is again cut into equal parts. Each small part is of 20 grams. If there are seven parts of the whole cake. What was the weight of the original cake?
- If  $\frac{1}{3}$ rd of the first of the three consecutive odd numbers is 2 more than  $\frac{1}{5}$ th of the third number, then the second number is?
- Total of 324 notes comprising of Rs. 20 and Rs.50 denominations make the sum of Rs.12450. The number of Rs. 20 notes is\_\_\_\_\_.
- The sum of two natural numbers is 5, the numbers are in a ratio 2:3. Find the numbers.