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SUMMER VACATION HOLIDAY HOMEWORK

PRACTICE SET 1

CLASS - X

FULL MARKS - 40

SECTION – A Questions 1 to 10 carry 1 marks each

1. Two lines are given to be parallel. The equation of one of the lines is $3x - 2y = 5$. The equation of the second line can be

(a) $9x + 8y = 7$ (b) $-12x - 8y = 7$ (c) $-12x + 8y = 7$ (d) $12x + 8y = 7$

2. What is the value of k such that the following pair of equations have infinitely many solutions?

$x - 2y = 3$ and $-3x + ky = -9$.

(a) -6 (b) -3 (c) 3 (d) 6

3. The pair of linear equations $(\frac{3}{2})x + (\frac{5}{3})y = 7$ and $9x + 10y = 14$ is

(a) consistent (b) inconsistent

(c) consistent with one solution (d) consistent with many solutions

4. If the system of equations $3x + y = 1$ and $(2k - 1)x + (k - 1)y = 2k + 1$ is inconsistent, then $k =$

(a) -1 (b) 0 (c) 1 (d) 2

5. The values of x and y satisfying the two equations $32x + 33y = 34$, $33x + 32y = 31$ respectively

Are (a) $-1, 2$ (b) $-1, 4$ (c) $1, -2$ (d) $-1, -4$

6. What is the value of q if $p/2 + 3q = 6$ and $2p - 2q = 10$?

(a) 1 (b) 4 (c) 6 (d) 16

7. If the lines given by $3x + 2ky = 2$ and $2x + 5y + 1 = 0$ are parallel, then the value of k is

(a) $-5/4$ (b) $2/5$ (c) $15/4$ (d) $3/2$

8. The pair of equations $ax + 2y = 9$ and $3x + by = 18$ represent parallel lines, where a, b are integers, if :

(a) $a = b$ (b) $3a = 2b$ (c) $2a = 3b$ (d) $ab = 6$

In the following questions 9 and 10, a statement of assertion (A) is followed by a statement of reason

(R). Mark the correct choice as:

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

9. Assertion (A): If the pair of linear equations $3x + y = 3$ and $6x + ky = 8$ does not have a solution, then the value of $k = 2$.

Reason (R): If the pair of linear equations $x + y - 4 = 0$ and $2x + ky = 3$ does not have a solution, then the value of $k = 2$.

10. Assertion (A): If the equation $3x - y + 8 = 0$ and $6x - ky = -16$ represent coincident lines, then the value of $k = 2$.

Reason (R): If the lines given by $3x + 2ky = 2$ and $2x + 5y + 1 = 0$ are parallel, then the value of k is 15.

SECTION – B Questions 11 to 14 carry 2 marks each.

11. For what value of k , will the following pair of equations have infinitely many solutions:

$$2x + 3y = 7 \text{ and } (k + 2)x - 3(1 - k)y = 5k + 1$$

12. If $49x + 51y = 499$, $51x + 49y = 501$, then find the value of x and y .

13. If $x = a$ and $y = b$ is the solution of the pair of equations $x - y = 2$ and $x + y = 4$, find the values of a and b .

14. The age of the father is twice the sum of the ages of his two children. After 20 years, his age will be equal to the sum of the ages of the children. Find the age of the father.

SECTION – C Questions 15 to 17 carry 3 marks each.

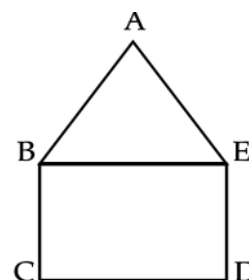
15. In the figure, ABCDE is a pentagon with $BE \parallel CD$ and $BC \parallel DE$. BC is perpendicular to CD.

$AE = AB = 5$ cm, $BE = 7$ cm, $BC = x - y$ and $CD = x + y$. If the perimeter of ABCDE is 27 cm.

find the value of x and y , given $x, y \neq 0$.

16. A fraction becomes $\frac{1}{3}$ when 2 is subtracted from the numerator and it becomes $\frac{1}{2}$ when 1 is subtracted from the denominator Find the fraction.

17. If $2x + y = 23$ and $4x - y = 19$, find the value of $(5y - 2x)$ and $(\frac{y}{x} - 2)$



SECTION –D Question 18 carry 5 marks

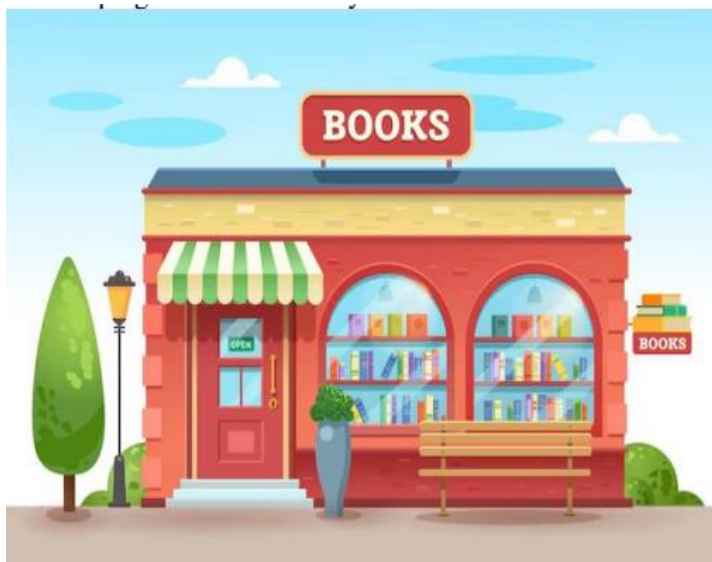
18. Determine graphically the co-ordinates of the vertices of triangle, the equations of whose sides are given by $2y - x = 8$, $5y - x = 14$ and $y - 2x = 1$.

CASE BASED QUESTIONS

SECTION E – Questions 19 to 20 carry 4 marks each

19. A book store shopkeeper gives books on rent for reading. He has variety of books in his store related to fiction, stories and quizzes etc. He takes a fixed charge for the first two days and an additional charge for subsequent days. Amruta paid ` 22 for a book and kept for 6 days; while

Radhika paid ₹16 for keeping the book for 4



days.

Assume that the fixed charge be ₹ x and additional charge (per day) be ₹ y .

- (a) Represent the situation of amount paid by Radhika and Amruta algebraically.
- (b) What are the fixed charges for a book and the additional charges for each subsequent day for a book?
- (c) What is the total amount paid by both, if both of them have kept the book for 2 more days?

20. Two friends purchased the same company car and same green colour. They are travelling in separate car which starts at place A and other car at place B. Place A and B are 100 km apart on a highway. One car starts from A and another from B at the same time. Situation 1: If the cars travel in the same direction at different speeds, they meet in 5 hours. Situation 2: If they travel towards each other, they meet in 1 hour.



- (a) Assuming that the speed of first car and second car be x km/h and y km/h respectively, find the pair of linear equations representing the situations.
- (b) What is the speed of car starts at A and speed of car starts at B?