

Maths - 10th

Q (1): Solve the following system of equations:

$$7(y + 3) - 2(x + 2) = 14$$

$$4(y - 2) + 3(x - 3) = 2 \text{ (MCQ)}$$

(a) $x = 4, y = 2$

(b) $x = 3, y = 1$

(c) $x = 5, y = 0$

(d) $x = 5, y = 1$

Q (2): Solve the following system of equations:

$$11x + 15y + 23 = 0$$

$$7x - 2y - 20 = 0 \text{ (MCQ)}$$

(a) $x = 2, y = -1$

(b) $x = 2, y = -2$

(c) $x = 2, y = -3$

(d) $x = 2, y = -4$

Q (3): Solve the following system of equations:

$$\frac{x}{3} + \frac{y}{4} = 11 \quad \frac{5x}{6} - \frac{y}{3} = -7 \text{ (MCQ)}$$

(a) $x = 6, y = 36$

(b) $x = 7, y = 37$

(c) $x = 6, y = 38$

(d) $x = 7, y = 39$

Q (4): Solve the following system of equations:

$$\frac{x}{7} + \frac{y}{3} = 5 \quad \frac{x}{2} - \frac{y}{9} = 6 \text{ (MCQ)}$$

(a) $x = 10, y = 7$

(b) $x = 12, y = 8$

(c) $x = 14, y = 9$

(d) $x = 8, y = 10$

Q (5): Solve the following system of equations:

$$3x - \frac{y+7}{11} + 2 = 10 \quad 2y + \frac{x+11}{7} = 10 \text{ (MCQ)}$$

(a) $x = 3, y = 4$

(b) $x = 3, y = -4$

(c) $x = 3, y = 6$

(d) $x = 3, y = -6$

Q (6): Solve the following system of equations:

$$\frac{2}{x} + \frac{5}{y} = 1 \quad \frac{60}{x} + \frac{40}{y} = 19 \text{ (MCQ)}$$

(a) $x = -4, y = -10$

(b) $x = 4, y = 10$

(c) $x = -4, y = 11$

(d) $x = 4, y = -10$

Case study:



Sheela went to a fair in her village. She wanted to enjoy rides on the Giant Wheel and play Hoopla (a game in which you throw a ring on the items kept in a stall, and if the ring covers any object completely, you get it). The number of times she played Hoopla is half the number of rides she had on the Giant Wheel. If each ride on the Giant Wheel costs Rs. 3, and a game of Hoopla costs Rs. 4, and she spent Rs. 20. (CASE_STUDY)

Q (7): What is the more number of times did sheela played Giant wheel than she played on hoopla?

- (a) Three times (b) Half time
(c) One time (d) Two times

Q (8): How much did she spent on playing Hoopla?

- (a) 2 Rs. (b) 3 Rs.

Q (9): How many times can she ride on Giant wheel only, if she has Rs. 20?

- (a) 1 (b) 6
(c) 2 (d) 4

Q (10): How many times can she ride on Hoopla only, if she has Rs. 20?

- (a) 1 (b) 2
(c) 5 (d) 8

Q (11): How much did she spent on riding the Giant Wheel ?

- (a) Rs 12 (b) Rs 10
(c) Rs 8 (d) Rs 4

Case study:



Prakla went to a stationery shop and purchased 2 pencils and 3 erasers for Rs 10. Her friend Monali saw the new variety of pencils and erasers with Prakla, and she also bought 4 pencils and 6 erasers of the same kind for Rs 20. (CASE_STUDY)

Q (12): How many pencils did prakla purchased?

Q (13): How many pencils did monali purchased?

Q (14): What is the algebraic equation from prakla's information?

(a) $2x - 3y = 9$

(b) $2x + 3y = 10$

Q (15): What is the algebraic equation from monali's information?

(a) $4x - 6y = 18$

(b) $4x + 6y = 20$

Q (16): What can be concluded if both the equations are plotted on graph?

(a) The lines are coinciding

(b) The lines are parallel

(c) The lines are perpendicular

Case study:



Moin tells his daughter, "Seven years ago, I was seven times as old as you were then. Also, three years from now, I shall be three times as old as you will be."

(CASE_STUDY)

Q (17): What is the first equation according to the first condition?

$x - 7y = 42$

$x - 7y = -42$

(a) (b)

Q (18): What is the equation according to the second condition?

(a) $x + 3y = 6$ (b) $x - 3y = 6$

Q (19): What is the present age of Moin?

(a) 42 (b) 48

Q (20): What is the present age of Moin's daughter?

(a) 10 (b) 14

Q (21): True or false. When the two equations are plotted on graph, the two lines are parallel.

(a) TRUE (b) FALSE

Case study:



The coach of a cricket team buys 3 bats and 6 balls for Rs.3900. Later, she buys another bat and 3 more balls of the same kind for Rs. 1300. (CASE_STUDY)

Q (22): What is the first equation according to the first statement mentioned?

(a) $3x + 6y = 3900$
(b) $3x - 6y = 3900$
(c) $3x + 6y = -3900$

Q (23): What is the equation according to the second statement mentioned?

(a) $x + 3y = -1300$
(b) $x - 3y = -1300$
(c) $x + 3y = 1300$

Q (24): What is the value of y in the equation if x=0 in the first statement mentioned?

(a) 750 (b) 650

Q (25): What is the value of x in the equation if y=0 in the first statement mentioned?

(a) 750 (b) 650

Q (26): When the lines are plotted on a graph paper, they meet on
(a) X-axis (b) Y-axis

Case study:



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The cost of 2 kg of apples and 1kg of grapes on a day was found to be Rs. 160. After a month, the cost of 4 kg of apples and 2 kg of grapes is Rs. 300 (CASE_STUDY)

Q (27): The algebraic representation of the first condition is

(a) $2x - y = 160$ (b) $2x + y = 160$

Q (28): The algebraic representation of the second condition is

(a) $-4x + 2y = 300$ (b) $4x + 2y = -300$

Q (29): What is the value of y in the first equation if $x=0$?

(a) 160 (b) 80

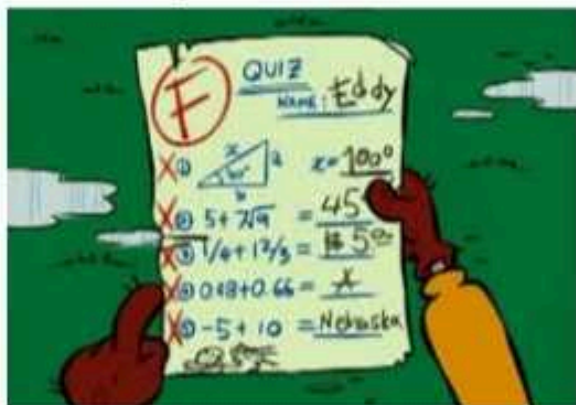
Q (30): What is the value of x in the second equation if $y=0$?

(a) 150 (b) 75

Q (31): True or false. When the two equations are plotted on graph, the two lines are coincident

(a) TRUE (b) FALSE

Case study:



10 students of Class X took part in a Mathematics quiz. The number of girls is 4 more

than the number of boys, where the number of boys = x and number of girls = y
(CASE_STUDY)

Q (32): The algebraic representation of the first condition is

- (a) $x + y = 10$ (b) $x - y = 10$

Q (33): The algebraic representation of the second condition is

- (a) $x - y = 4$ (b) $x + y = 10$

Q (34): Number of boys is

- (a) 4 (b) 7

Q (35): Number of girls is

- (a) 4 (b) 7

Q (36): When the lines are plotted on a graph paper according to the two equations obtained from the statement, they meet on ?

- (a) On x-axis (b) On y-axis

Case study:



Five years hence, the age of Peter will be three times that of his son. Five years ago, Peter's age was seven times that of his son. (CASE_STUDY)

Q (37): The algebraic representation of the first condition is

- (a) $x - 3y = -10$ (b) $x - 3y = 10$

Q (38): The algebraic representation of the second condition is

- (a) $x - 7y = -30$ (b) $x - 7y = 30$

Q (39): The present age of Peter _____ years

- (a) 40 (b) 30

Q (40): The present age of Peter's son _____ years

- (a) 40 (b) 30

Q (41): The difference between their ages will never change. (True/False)

- (a) FALSE (b) TRUE

Case study:



The ratio of incomes of two persons is 9 : 7 and the ratio of their expenditures is 4 : 3. Each of them manages to save Rs. 2000 per month in their respective banks.

(CASE_STUDY)

Q (42): The algebraic representation of the statement can be

(a) $9x - 4y = 2000$

(b) $9x - 4y = -2000$

Q (43): The algebraic representation of the statement can be

(a) $-7x - 3y = 2000$

(b) $7x - 3y = -2000$

Q (44): What is the value of x?

(a) 3000

(b) 4000

Q (45): What is the value of y?

(a) 3000

(b) 4000

Q (46): The monthly incomes of the persons are _____

(a) Rs 18,000 and Rs 14,000

(b) Rs 18,000 and Rs 15,000

(c) Rs 20,000 and Rs 14,000

Case study:



Geeta went to a bank to withdraw Rs. 2000. She asked the cashier to give her Rs.50 and Rs.100 notes only. Geeta got 25 notes in all. (CASE_STUDY)

Q (47): The algebraic representation of the first statement mentioned is

- (a) $A + B = 25$
- (b) $2A + B = 25$
- (c) $50A + 100B = 2000$

Q (48): The algebraic representation of the second statement mentioned is

- (a) $A + B = 25$
- (b) $50A + 100B = 2000$
- (c) $100A + 100B = 2000$

Q (49): How many notes of Rs 50 she received?

- (a) 5
- (b) 10

Q (50): How many notes of Rs 100 she received?

- (a) 5
- (b) 10

Q (51): What is the total amount received by Geeta (from the bank) only in Rs. 50 notes?

- (a) Rs 500
- (b) Rs 1500

Case study:



A lending library has a fixed charge for the first three days and an additional charge for each day thereafter. Saritha paid Rs. 27 for a book kept for seven days, while Susy paid Rs 21 for the book she kept for five days. (CASE_STUDY)

Q (52): The algebraic representation of the first condition is

- (a) $A + 4B = -27$
- (b) $A + 4B = 27$

Q (53): The algebraic representation of the second condition is

- (a) $A + 2B = -21$
- (b) $A + 2B = 21$

Q (54): The fixed charge is

- (a) Rs 15
- (b) Rs 10

Q (55): What is the additional charge per day?

- (a) Rs 3
- (b) Rs 2

Q (56): What will be the additional charge if the book is kept for 2 days thereafter?

(a) Rs 3

(b) Rs 10