5 Linear Equations in Two Variables

Problem set 5

(1) Choose the correct alternative answers for the following questions.

(i) If $3x + 5y = 9$ and $5x + 3y = 7$ then What is the value of $x + y$?

(A) 2 (B) 16 (C) 9 (D) 7

Soln :-

$$3x + 5y = 9$$

$$+$$

$$5x + 3y = 7$$

$$8x + 8y = 16$$

$$\therefore \quad x + y = 2$$

Option - (A)

(ii) 'When 5 is subtracted from length and breadth of the rectangle, the perimeter becomes 26.' What is the mathematical form of the statement ?

(A) $x - y = 8$ (B) $x + y = 8$ (C) $x + y = 23$ (D) $2x + y = 21$

Soln :-

$$\text{Length} = x - 5$$

$$\text{\&} \quad \text{Breadth} = y - 5$$

$$\therefore \quad \text{Perimeter} = 2(\text{Length} + \text{Breadth})$$

$$26 = 2(x - 5 + y - 5)$$

$$13 = x + y - 10$$

$$x + y = 13 + 10$$

$$\boxed{x + y = 23}$$

Option (c)

(iii) Ajay is younger than Vijay by 5 years. Sum of their ages is 25 years. What is Ajay's age ?

(A) 20 (B) 15 (C) 10 (D) 5

Soln:- Let, Ajay's age = x years.

Vijay's age = $x + 5$ years

And, sum of their ages is 25 years.

$$x + x + 5 = 25$$

$$2x = 25 - 5$$

$$2x = 20$$

$$x = 20 / 2$$

$$\therefore \quad \boxed{x = 10}$$

Option (c)

(2) Solve the following simultaneous equations.

(i) $2x + y = 5$; $3x - y = 5$

(ii) $x - 2y = -1$; $2x - y = 7$

(iii) $x + y = 11$; $2x - 3y = 7$

(iv) $2x + y = -2$; $3x - y = 7$

(v) $2x - y = 5$; $3x + 2y = 11$

(vi) $x - 2y = -2$; $x + 2y = 10$

Soln:-

i) $2x + y = 5$; $3x - y = 5$

$$2x + y = 5 \quad \text{——} \quad (I)$$

$$3x - y = 5 \quad \text{——} \quad (II)$$

Add eq? (I) and eq? (II),

$$\begin{array}{r} 2x + \cancel{y} = 5 \\ + \\ 3x - \cancel{y} = 5 \\ \hline 5x \quad\quad = 10 \end{array}$$

$$\therefore \quad x = \frac{10}{5}$$

$$\therefore \quad \boxed{x = 2}$$

Put $x = 2$ in eq? (I),

$$2x + y = 5$$

$$(2 \times 2) + y = 5$$

$$4 + y = 5$$

$$\therefore \quad y = 5 - 4$$

$$\therefore \quad \boxed{y = 1}$$

$$\text{Solution} = (x, y) = (2, 1)$$

ii) $x - 2y = -1$; $2x - y = 7$

$$x - 2y = -1 \quad \text{——} \quad (I)$$

$$2x - y = 7 \quad \text{——} \quad (II)$$

Multiply eq^n (II) by 2,

$$4x - 2y = 14 \quad \text{——} \quad (III)$$

Subtract eq^n (I) from eq^n (III),

$$\begin{array}{rrr} 4x & -2y & = 14 \\ - & x & - 2y = -1 \\ \hline - & + & + \\ \hline 3x & & = 15 \end{array}$$

$$\therefore \quad x = \frac{15}{3}$$

$$\therefore \quad \boxed{x = 5}$$

Put $x = 5$ in eq^n (I),

$$x - 2y = -1$$

$$5 - 2y = -1$$

$$2y = 5 + 1$$

$$2y = 6$$

$$y = \frac{6}{2}$$

$$\therefore \quad \boxed{y = 3}$$

Solution $= (x, y) = (5, 3)$

iii) $x + y = 11$; $2x - 3y = 7$

$$x + y = 11 \quad \text{——} \quad (\text{I})$$

$$2x - 3y = 7 \quad \text{——} \quad (\text{II})$$

Multiply eq? (I) by 3,

$$3x + 3y = 33 \quad \text{——} \quad (\text{III})$$

Add eq? (II) and eq? (III),

$$2x - 3y = 7$$

$$+ \quad 3x + 3y = 33$$

$$5x \quad = 40$$

$$\therefore \quad x = \frac{40}{5}$$

$$\therefore \quad \boxed{x = 8}$$

Put $x = 8$ in eq? (I),

$$x + y = 11$$

$$\therefore \quad 8 + y = 11$$

$$\therefore \quad y = 11 - 8$$

$$\therefore \quad \boxed{y = 3}$$

$$\therefore \quad \text{Solution} = (x, y) = (8, 3)$$

iv) $2x + y = -2$; $3x - y = 7$

$$2x + y = -2 \quad \text{——} \quad (\text{I})$$

$$3x - y = 7 \quad \text{——} \quad (\text{II})$$

Add eqn (I) and eqn (II),

$$\begin{array}{rl} & 2x + y = -2 \\ + & 3x - y = 7 \\ \hline & 5x \quad = 5 \end{array}$$

$$\therefore \quad x = \frac{5}{5}$$

$$\therefore \quad \boxed{x = 1}$$

Put $x = 1$ in eqn (I),

$$2x + y = -2$$

$$(2 \times 1) + y = -2$$

$$2 + y = -2$$

$$y = -2 - 2$$

$$\therefore \quad \boxed{y = -4}$$

$$\therefore \quad \text{Solution} = (x, y) = (1, -4)$$

v) $2x - y = 5$; $3x + 2y = 11$

$$2x - y = 5 \quad \text{——} \quad (\text{I})$$

$$3x + 2y = 11 \quad \text{——} \quad (\text{II})$$

Multiply eq? (I) by 2,

$$4x - 2y = 10 \quad \text{——} \quad (\text{III})$$

Add eq? (II) and eq? (III),

$$3x + 2y = 11$$

$$+ \quad 4x - 2y = 10$$

$$7x = 21$$

$$\therefore \quad x = \frac{21}{7}$$

$\therefore$ $\boxed{x = 3}$

Put $x = 3$ in eq^n (I),

$$2x - y = 5$$

$\therefore$ $(2 \times 3) - y = 5$

$\therefore$ $6 - 5 = y$

$\therefore$ $\boxed{y = 1}$

$\therefore$ Solution $= (x, y) = (3, 1)$

vi) $x - 2y = -2$; $x + 2y = 10$

$$x - 2y = -2 \quad \text{—— (I)}$$

$$x + 2y = 10 \quad \text{—— (II)}$$

Add eq^n (I) and eq^n (II)

$$x - 2y = -2$$

$$+ \quad x + 2y = 10$$

$$2x = 8$$

$\therefore$ $x = \frac{8}{2}$

$\therefore$ $\boxed{x = 4}$

Put $x = 4$ in eq? (I),

$$x - 2y = -2$$

$$\therefore \quad 4 - 2y = -2$$

$$\therefore \quad 2y = 4 + 2$$

$$\therefore \quad 2y = 6$$

$$\therefore \quad y = \frac{6}{2}$$

$$\therefore \quad \boxed{y = 3}$$

$$\therefore \quad \text{Solution} = (x, y) = (4, 3)$$

(3) By equating coefficients of variables, solve the following equations.

(i) $3x - 4y = 7;\ 5x + 2y = 3$ (ii) $5x + 7y = 17;\ 3x - 2y = 4$

(iii) $x - 2y = -10;\ 3x - 5y = -12$ (iv) $4x + y = 34;\ x + 4y = 16$

Soln:-

i) $3x - 4y = 7 \quad ; \quad 5x + 2y = 3$

$$3x - 4y = 7 \quad \text{——} \quad (I)$$

$$5x + 2y = 3 \quad \text{——} \quad (II)$$

Multiply eq? (II) by 2,

$$10x + 4y = 6 \quad \text{——} \quad (III)$$

Add eq^n (I) and eq^n (III),

$$3x - 4y = 7$$

$$+ \quad 10x + 4y = 6$$

$$13x \qquad = 13$$

$$\therefore \quad x = \frac{13}{13}$$

$$\therefore \quad \boxed{x = 1}$$

Put $x = 1$ in eq^n (I),

$$3x - 4y = 7$$

$$(3 \times 1) - 4y = 7$$

$$4y = 3 - 7$$

$$\therefore \quad 4y = -4$$

$$\therefore \quad y = \frac{-4}{4}$$

$$\therefore \quad \boxed{y = -1}$$

$$\therefore \quad \text{Solution} = (x, y) = (1, -1)$$

ii) $5x + 7y = 17$; $3x - 2y = 4$

$$5x + 7y = 17 \quad \text{——} \quad (I)$$

$$3x - 2y = 4 \quad \text{——} \quad (II)$$

Multiply eq? (I) by 2 and eq? (II) by 7,

$$10x + 14y = 34 \quad \text{——} \quad (III)$$

$$21x - 14y = 28 \quad \text{——} \quad (IV)$$

Add eq? (III) and eq? (IV),

$$10x + 14y = 34$$

$$+ \quad 21x - 14y = 28$$

$$31x \qquad = 62$$

$$\therefore \quad x = \frac{62}{31}$$

$$\therefore \quad \boxed{x = 2}$$

Put $x = 2$ in eq? (I).

$$5x + 7y = 17$$

$$(5 \times 2) + 7y = 17$$

$$10 + 7y = 17$$

$$7y = 17 - 10$$

$$7y = 7$$

$$y = \frac{7}{7}$$

$$\boxed{y = 1}$$

$\therefore$ Solution $= (x, y) = (2, 1)$

iii) $x - 2y = -10$; $3x - 5y = -12$

$$x - 2y = -10 \quad \text{——} \quad (I)$$

$$3x - 5y = -12 \quad \text{——} \quad (II)$$

Multiply eq? (I) by 3,

$$3x - 6y = -30 \quad \text{——} \quad (III)$$

Subtract eq? (II) from eq? (III),

$$3x - 6y = -30$$

$$-\quad 3x - 5y = -12$$

$$\text{(signs: } - \quad + \quad + \text{)}$$

$$+y = +18$$

$\therefore$ $\boxed{y = 18}$

Put $y = 18$ in eq? (I),

$$x - 2y = -10$$

$$x - (2 \times 18) = -10$$

$$x - 36 = -10$$

$$x = -10 + 36$$

$$\therefore \quad \boxed{x = 26}$$

$$\therefore \quad \text{Solution} = (x, y) = (26, 18)$$

iv) $4x + y = 34$; $x + 4y = 16$

$$4x + y = 34 \quad \text{—— (I)}$$

$$x + 4y = 16 \quad \text{—— (II)}$$

Multiply eq? (II) by 4,

$$4x + 16y = 64 \quad \text{——— (III)}$$

Subtract eq? (I) from eq? (III),

$$4x + 16y = 64$$

$$- \quad 4x + y = 34$$

$$15y = 30$$

$$y = \frac{30}{15}$$

$\therefore \quad \boxed{y = 2}$

Put $y = 2$ in eq? (I),

$$4x + y = 34$$

$$4x + 2 = 34$$

$$4x = 34 - 2$$

$$4x = 32$$

$$x = \frac{32}{4}$$

$$\boxed{x = 8}$$

$\therefore$ Solution $= (x, y) = (8, 2)$

(4) Solve the following simultaneous equations.

(i) $\frac{x}{3} + \frac{y}{4} = 4 \; ; \quad \frac{x}{2} - \frac{y}{4} = 1$

(ii) $\frac{x}{3} + 5y = 13 \; ; \quad 2x + \frac{y}{2} = 19$

(iii) $\frac{2}{x} + \frac{3}{y} = 13 \; ; \quad \frac{5}{x} - \frac{4}{y} = -2$

Soln:-

i) $\frac{x}{3} + \frac{y}{4} = 4 \; ; \quad \frac{x}{2} - \frac{y}{4} = 1$

$$\frac{x}{3} + \frac{y}{4} = 4$$

$$\cancel{12}^{4} \times \frac{x}{\cancel{3}_{1}} + \cancel{12}^{3} \times \frac{y}{\cancel{4}_{1}} = 12 \times 4$$

$$4x + 3y = 48 \quad \text{——} \quad (I)$$

$$\frac{x}{2} - \frac{y}{4} = 1$$

$$\cancel{8}^{4} \times \frac{x}{\cancel{2}_{1}} - \cancel{8}^{2} \times \frac{y}{\cancel{4}_{1}} = 8$$

$$4x - 2y = 8 \quad \text{——} \quad (II)$$

Subtract eq? (II) from eq? (I),

$$\cancel{4x} + 3y = 48$$

$$- \quad \cancel{4x} - 2y = 8$$

$$- \quad + \quad -$$

$$5y = 40$$

$$y = \frac{40}{5}$$

$$\therefore \quad \boxed{y = 8}$$

Put $y = 8$ in eq? (II),

$$4x - 2y = 8$$

$$4x - (2 \times 8) = 8$$

$$4x - 16 = 8$$

$$4x = 8 + 16$$

$$4x = 24$$

$$\therefore \quad x = \frac{24}{4}$$

$$\therefore \quad \boxed{x = 6}$$

$$\therefore \quad \text{Solution} = (x, y) = (6, 8)$$

ii) $\frac{x}{3} + 5y = 13 \quad ; \quad 2x + \frac{y}{2} = 19$

$$\frac{x}{3} + 5y = 13$$

$$\cancel{3} \times \frac{x}{\cancel{3}} + 3 \times 5y = 3 \times 13$$

$$x + 15y = 39 \quad \text{——} \quad (I)$$

$$2x + \frac{y}{2} = 19$$

$$30 \times 2x + \cancel{30}^{15} \times \frac{y}{\cancel{2}_{1}} = 30 \times 19$$

$$60x + 15y = 570 \quad \text{——} \quad (II)$$

Subtract eq^{n} (I) from eq^{n} (II),

$$60x + \cancel{15y} = 570$$

$$- \quad x + \cancel{15}y = 39$$

$$59x = 531$$

$$\therefore \quad x = \frac{531}{59}$$

$$\therefore \quad \boxed{x = 9}$$

Put $x = 9$ in eq? (I),

$$x + 15y = 39$$

$$9 + 15y = 39$$

$$15y = 39 - 9$$

$$15y = 30$$

$$\therefore \quad y = \frac{30}{15}$$

$$\therefore \quad \boxed{y = 2}$$

$$\therefore \quad \text{Solution} = (x, y) = (9, 2)$$

iii) $\frac{2}{x} + \frac{3}{y} = 13 \; ; \; \frac{5}{x} - \frac{4}{y} = -2$

Let, $\frac{1}{x} = m \quad \& \quad \frac{1}{y} = n$

$$2m + 3n = 13 \quad \text{—— (I)}$$

$$5m - 4n = -2 \quad \text{—— (II)}$$

Multiply eq? (I) by 4 and eq? (II) by 3,

$$8m + 12n = 52 \quad \text{—— (III)}$$

$$15m - 12n = -6 \quad \text{—— (IV)}$$

Add eq? (III) and eq? (IV),

$$8m + 12n = 52$$

$$+ \quad 15m - 12n = -6$$

$$23m \qquad = 46$$

$$\therefore \quad m = \frac{46}{23}$$

$$\therefore \quad \boxed{m = 2}$$

Put $m = 2$ in eq? (I),

$$2m + 3n = 13$$

$$(2 \times 2) + 3n = 13$$

$$4 + 3n = 13$$

$$\therefore \quad 3n = 13 - 4$$

$$\therefore \quad 3n = 9$$

$\therefore \quad n = \frac{9}{3}$

$\therefore \quad \boxed{n = 3}$

Now,

$m = 2 \quad \& \quad n = 3$

$\therefore \quad \frac{1}{x} = 2 \quad \& \quad \frac{1}{y} = 3$

$\therefore \quad \boxed{x = \frac{1}{2}} \quad \& \quad \boxed{y = \frac{1}{3}}$

$\therefore \quad$ Solution $= (x, y) = \left(\frac{1}{2}, \frac{1}{3}\right)$

(5*) A two digit number is 3 more than 4 times the sum of its digits. If 18 is added to this number, the sum is equal to the number obtained by interchanging the digits. Find the number.

Soln :- Let, the digit at the unit place be 'x' and the digit at the tens place be 'y'.

$\therefore$ The two digit number is,

$10y + x$

Now, the two digit number is 3 more than 4 times the sum of its digits.

$$\therefore \quad 10y + x = 4(x+y) + 3$$

$$\therefore \quad 10y + x = 4x + 4y + 3$$

$$\therefore \quad 10y + x - 4x - 4y = 3$$

$$\therefore \quad -3x + 6y = 3$$

$$\therefore \quad -x + 2y = 1 \quad \text{——} \quad (I)$$

If 18 is added to this number, the sum is equal to the number obtained by interchanging the digits.

$$10y + x + 18 = 10x + y$$

$$\therefore \quad 10y + x - 10x - y = -18$$

$$\therefore \quad -9x + 9y = -18$$

$$\therefore \quad -x + y = -2 \quad \text{——} \quad (II)$$

Subtract eq? (I) from eq? (II),

$$-\cancel{x} + y = -2$$

$$-\quad -\cancel{x} + 2y = 1$$

$$+ \quad - \quad -$$

$$-y = -3$$

$$\therefore \quad \boxed{y = 3}$$

Put $y = 3$ in eqn (I),

$$-x + 2y = 1$$

$$-x + (2 \times 3) = 1$$

$$-x + 6 = 1$$

$$-x = 1 - 6$$

$$-x = -5$$

$$\therefore \quad \boxed{x = 5}$$

$\therefore$ The two digit number is,

$$= 10y + x$$

$$= (10 \times 3) + 5$$

$$= 30 + 5$$

$$= 35$$

(6) The total cost of 8 books and 5 pens is 420 rupees and the total cost of 5 books and 8 pens is 321 rupees. Find the cost of 1 book and 2 pens.

Soln:-

Let, the cost of 1 book and 1 pen be x and y rupees respectively.

Now, the total cost of 8 books and 5

pens is 420 rupees.

$$8x + 5y = 420 \quad \text{——} \quad (I)$$

Also, the total cost of 5 books and 8 pens is 321 rupees.

$$5x + 8y = 321 \quad \text{——} \quad (II)$$

Multiply eq^n (I) by 8 and eq^n (II) by 5,

$$64x + 40y = 3360 \quad \text{——} \quad (III)$$

$$25x + 40y = 1605 \quad \text{——} \quad (IV)$$

Subtract eq^n (III) from eq^n (IV),

$$64x + 40y = 3360$$

$$- \quad 25x + 40y = 1605$$

$$39x = 1755$$

$$\therefore \quad x = \frac{1755}{39}$$

$$\therefore \quad \boxed{x = 45}$$

Put $x = 45$ in eq^n (I),

$$8x + 5y = 420$$

$\therefore \quad (45 \times 8) + 5y = 420$

$\therefore \quad 360 + 5y = 420$

$\therefore \quad 5y = 420 - 360$

$\therefore \quad 5y = 60$

$\therefore \quad y = \frac{60}{5}$

$\therefore \quad \boxed{y = 12}$

$\therefore$ The cost of 1 book & 2 pens

$= x + 2y$

$= 45 + 2 \times 12$

$= 45 + 24$

$= ₹ 69$

(7*) The ratio of incomes of two persons is 9 : 7. The ratio of their expenses is 4 : 3. Every person saves rupees 200, find the income of each.

Soln:-

Let, the income of two persons be x and y rupees respectively.

Now, the ratio of their incomes is 9:7

$$\therefore \quad \frac{x}{y} = \frac{9}{7}$$

$$\therefore \quad 7x = 9y$$

$$\therefore \quad 7x - 9y = 0 \quad \text{——} \quad (I)$$

Also, the ratio of their expenses is 4:3 and each person saves rupees 200.

Income - Savings = Expenses

$$\therefore \quad \frac{x - 200}{y - 200} = \frac{4}{3}$$

$$\therefore \quad 3(x - 200) = 4(y - 200)$$

$$\therefore \quad 3x - 600 = 4y - 800$$

$$\therefore \quad 3x - 4y = -800 + 600$$

$$\therefore \quad 3x - 4y = -200 \quad \text{——} \quad (II)$$

Multiply eq^n (I) by 3 and eq^n (II) by 7,

$$21x - 27y = 0 \quad \text{——} \quad (III)$$

$$21x - 28y = -1400 \quad \text{——} \quad (IV)$$

Subtract eq^n (III) from eq^n (IV),

$$21x - 28y = -1400$$

$$-\quad 21x - 27y = 0$$

$$-\quad +\quad -$$

$$-y = -1400$$

$$\therefore \quad \boxed{y = 1400}$$

Put $y = 1400$ in eq? (I),

$$7x - 9y = 0$$

$$7x = 9y$$

$$7x = 9 \times 1400$$

$$\therefore \quad x = \frac{9 \times 1400^{200}}{7_1}$$

$$\therefore \quad \boxed{x = 1800}$$

∴ The income of two persons is ₹ 1800 & ₹ 1400 respectively.

(8*) If the length of a rectangle is reduced by 5 units and its breadth is increased by 3 units, then the area of the rectangle is reduced by 8 square units. If length is reduced by 3 units and breadth is increased by 2 units, then the area of rectangle will increase by 67 square units. Then find the length and breadth of the rectangle.

Soln:-

Let, the length and breadth of the

rectangle be x and y units respectively.

$\therefore$ Area of rectangle,

= length $\times$ breadth

= xy sq. units

Now, if the length is reduced by 5 units and its breadth is increased by 3 units, then the area of the rectangle is reduced by 8 square units.

$\therefore$ $(x-5)(y+3) = xy - 8$

$\therefore$ $xy + 3x - 5y - 15 = xy - 8$

$\therefore$ $3x - 5y = 15 - 8$

$\therefore$ $3x - 5y = 7$ —— (I)

Also, if the length is reduced by 3 units and its breadth is increased by 2 units, then the area of the rectangle will increase by 67 square units.

$(x-3)(y+2) = xy + 67$

$$xy + 2x - 3y - 6 = xy + 67$$

$$2x - 3y = 67 + 6$$

$$\therefore \quad 2x - 3y = 73 \quad \text{—— (II)}$$

Multiply eq? (I) by 2 and eq? (II) by 3,

$$6x - 10y = 14 \quad \text{—— (III)}$$

$$6x - 9y = 219 \quad \text{—— (IV)}$$

Subtract eq? (III) from eq? (IV),

$$6x - 9y = 219$$

$$- \quad 6x - 10y = 14$$

$$- \quad + \quad -$$

$$y = 205$$

$$\therefore \quad \boxed{y = 205}$$

Put $y = 205$ in eq? (I),

$$3x - 5y = 7$$

$$3x - (5 \times 205) = 7$$

$$3x - 1025 = 7$$

$$3x = 7 + 1025$$

$$\therefore \quad 3x = 1032$$

$$\therefore \quad x = \frac{1032}{3}$$

$$\therefore \quad \boxed{x = 344}$$

$\therefore$ The length of the rectangle is 344 units and the breadth of the rectangle is 205 units.

(9*) The distance between two places A and B on road is 70 kilometers. A car starts from A and the other from B. If they travel in the same direction, they will meet after 7 hours. If they travel towards each other they will meet after 1 hour, then find their speeds.

Soln:-

Let, the speeds of the cars be x km per hour and y km per hour respectively.

Now, $\quad \text{Speed} = \frac{\text{Distance}}{\text{Time}}$

Now, if they travel in same direction then they will meet after 7 hours.

$$x - y = \frac{70}{7}$$

$$\therefore \quad x - y = 10 \quad \text{——} \ (\text{I})$$

Also, if they travel towards each other then they will meet after 1 hour.

$$\therefore \quad x + y = \frac{70}{1}$$

$$\therefore \quad x + y = 70 \quad \text{——} \quad (II)$$

Add eq? (I) and eq? (II),

$$\begin{array}{rl} & x - y = 10 \\ + & \\ & x + y = 70 \\ \hline & 2x \quad = 80 \end{array}$$

$$\therefore \quad x = \frac{80}{2}$$

$$\therefore \quad \boxed{x = 40}$$

Put $x = 40$ in eq? (I),

$$x - y = 10$$

$$\therefore \quad 40 - y = 10$$

$$\therefore \quad y = 40 - 10$$

$$\therefore \quad \boxed{y = 30}$$

∴ The speeds of the cars are 40 km/Hr and 30 km/Hr respectively.

(10*) The sum of a two digit number and the number obtained by interchanging its digits is 99. Find the number.

Soln:-

Let, the digit at the unit place be 'x' and the digit at the tens place be 'y'.

∴ The two digit number is,

$= 10y + x$

Now, the number obtained by interchanging the digits is,

$= 10x + y$

Now, their sum is 99.

$$10y + x + 10x + y = 99$$

$$11x + 11y = 99$$

$$\therefore \quad x + y = 9 \quad \text{——} \quad (I)$$

The information given here is insufficient.

If $x = 1$, then

$$1 + y = 9$$

$$y = 9 - 1$$

$$\boxed{y = 8}$$

Similarly, when $x = 2$ then $y = 7$

when $x = 3$ then $y = 6$

when $x = 4$ then $y = 5$

when $x = 5$ then $y = 4$

when $x = 6$ then $y = 3$

when $x = 7$ then $y = 2$

when $x = 8$ then $y = 1$

$\therefore$ The number could be,

81, 72, 63, 54, 45, 36, 27, 18.