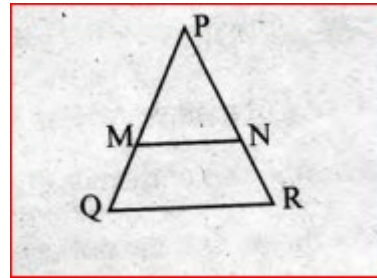


$$1. (a) \frac{7}{3} + \frac{7}{4} = \frac{28 + 21}{12} = \frac{49}{12} = \frac{7}{4} \times \frac{7}{3}$$

Write another pair of numbers with sum and product equal.

$$(b) \text{ If } a + b = ab, \text{ then } \frac{1}{a} + \frac{1}{b} = \underline{\hspace{2cm}}$$

2. In the figure, MN is parallel to QR. PM=6centimetres, PQ= 10 centimetres.



- What is the length of MQ?
- What is PN: NR?

3. $p(x) = x^2 - 3x + 2$, $q(x) = 3x + 1$

- Find $p(x) + q(x)$
- If $p(x) + q(x) + r(x) = 0$, find $r(x)$.
- What number is $p(1) + q(1) + r(1)$?

4. 10, 20, 30,----- are multiples of 10. They are in general represented as $10n$, where n is any natural number. To get two digit multiple of 10, take the numbers from 1 to 9 for n . Similarly, the numbers, 11, 31, 21, -----, 91 can generally be represented by $10n + 1$. Here also $n = 1, 2, 3, \dots, 9$.

Likewise, 12, 22, 32,-----, is represented by $10n + 2$. In short all two digit numbers can be represented by $10n + m$, where $m = 1, 2, 3, 4, \dots, 9$; $m = 0, 1, 2, \dots, 9$. Here n is a digit in Ten's place and m is a digit in one's place.

- The digit in a ten's place of a number is a and digit in it's one's place is b . What is the number?
- Which is the number obtained by interchanging the digits in the number mentioned above?
- Find the sum of the above two numbers.

. David has a Recurring Deposit Account in a bank. He deposits Rs 2500 per month for 2 years. If he gets Rs, 66,250 at the time of maturity, find:

- The interest paid by the bank
- The rate of interest

6. Using a ruler and a compass, construct a parallelogram ABCD, given that $AB = 4\text{cm}$, $AC = 10\text{ cm}$ and $BD = 6\text{cm}$. Measure BC.

7. If the perimeter of a rectangular plot is 68m and the length of its diagonal is 26m. Find it's area.

8. A car covers a distance of 400km at a certain speed. Had the speed been 12km/hr or more, the time taken for the journey would have been 1 hour 40 minutes less. Find the original speed of the car.

9. Rationalise $\frac{2}{\sqrt{5} + \sqrt{3} + \sqrt{2}}$

10. Solve for x and y. ‘

$$\begin{aligned} 41x + 53y &= 135 \\ 53x + 41y &= 147 \end{aligned}$$

11. If $\frac{\sec\theta + \tan\theta}{\sec\theta - \tan\theta} = \frac{4}{1}$, then $\sin\theta = ?$

12. Six years hence a man's age will be three times his son's age and three years ago he was nine times as old as his son. Find their present ages.

13. Construct a parallelogram with diagonals 6 cm and 8cm in length and angle between them is 60° . Measure a longer side.

14. Construct an equilateral triangle of side 5 cm and draw its incircle.

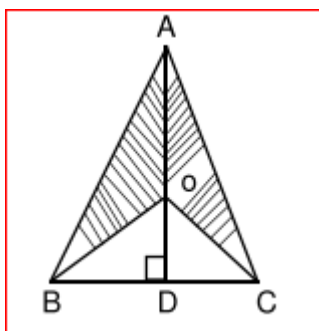
15. Find the mean, median and mode of 8,0,5,3, 2, 2,1,2,4, 7, 2, 5.

16. What sum will amount to Rs 2782.50 in 2 years at CI, if the rates are 5% and 5% for the successive years?

17. Find the coordinates of the centre of a circle passing through A(5,1), B(-3, -7) and C(7,-1).

18. The result of dividing a number of two digits by the number with the digits reversed is $\frac{5}{6}$. If the difference of the digits is 1, find the number.

19. In the adjoining figure, ABC is an isosceles triangle with BC=8cm, AB=AC=12cm. AD is perpendicular to BC and O is a point of AB such that $\angle BOC=90^\circ$, find the area of shaded portion.



20. How many square tiles of side 20cm will be needed to pave a footpath, which is 2m wide and surrounds a rectangular plot 40m by 22m?