

M. Prakash Institute
23 November 2025

STD VIII - Entrance Test 1
Time: 3 hours

Note: Q1 to Q10 are of 2 marks each, Q11 to Q30 are of 4 marks each.

Total Marks: 100

Paper Type:AD

Student Receipt number:

Student Name:

Q1 Find the number of integers N between 1000 and 2000 such that N is divisible by 5 and 7.

Q2 Cost of manufacturing a toy is divided between materials, labour and overheads in the ratio 3 : 4 : 1. If the materials cost Rs. 7.5, then the cost of manufacturing the toy is ----

Q3 A certain sum put up at compound interest amounts to Rs.8,820 in 2 years and Rs. 9,261 in 3 years. Find rate of interest:

Q4 Find the difference between the sums of all odd numbers and even numbers from 50 to 205.

Q5 Three fractions having equal denominators, have numerators 5, 17, 13 respectively. If the sum of these fractions is 7, then their denominator is ----

Q6 Four numbers are in proportion. Their extreme terms are 2 and 54. One of the middle terms is thrice the other one. Find the sum of the middle terms.

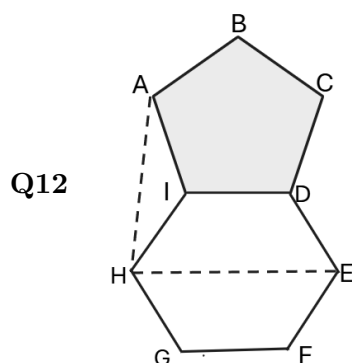
Q7 LCM of two coprime numbers is 2592. Find the difference between the two numbers. (Coprime numbers means they do not have any common factor other than 1.)

Q8 $(2^8 \times 2^{-2})^x = 32$ Find $30x = ?$

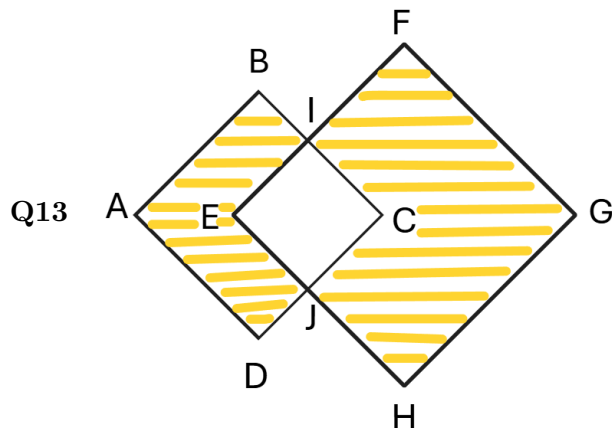
Q9 Y is the average of first seven consecutive prime numbers. Find $7Y$

Q10 0.15% of $33\frac{1}{3}\%$ of 10,000 =?

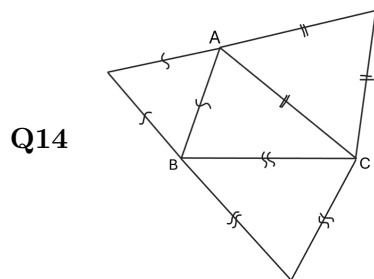
Q11 A clock was repaired and started by setting time at 10:10 am. By how many degrees would the hour hand rotate when the clock struck 11:00 a.m on the same day.



Regular pentagon and a regular hexagon share a common side ID. find the measure of $\angle AHE$

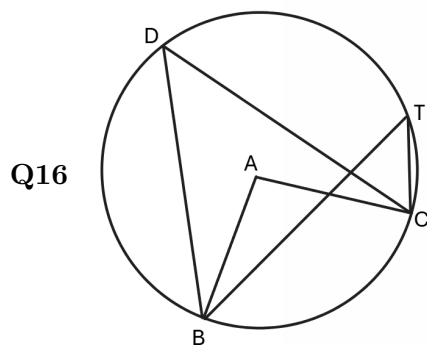


As shown in the figure two squares $\square ABCD$ and $\square EFGH$ with areas 256 and 400 respectively overlap each other to form a square $\square EICJ$. The difference in areas of shaded portion is equal to the area of $\square EICJ$. Find the perimeter of the whole figure.



Equilateral triangles are drawn on all three sides of $\triangle ABC$ as shown in figure. If areas of the equilateral triangles are $16\sqrt{3}$, $25\sqrt{3}$, and $9\sqrt{3}$; find the area of $\triangle ABC$.

- Q15 In Pune Super-league held this year, eight football teams from Pune participated. In first round each team played every other team once. In the next round four top teams again played one game with every other team. The finals was played between the two top performing teams. How many football matches were played in all?

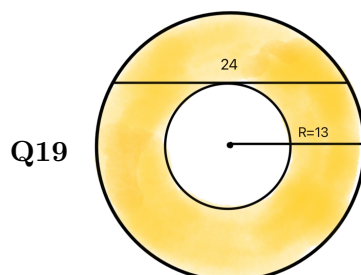


A is the center of the circle.

$m\angle BDC + m\angle BAC = 150^\circ$, Find $m\angle BTC$.

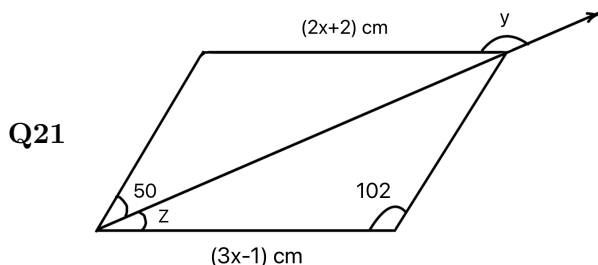
- Q17 The sum of ages of mother and her twin daughters is 90 years. Five years ago, mother's age was three times her daughter's age. Find the present age of daughter.

- Q18 20 kg rice lasts 24 days in a family of ten people. If 2 guests arrive to stay with the family, now how many days will the above quantity of rice last?



If the area of the shaded region formed by two concentric circles is $a^2\pi$ sq cm., where the length of a chord of outer circle that touches the inner circle is 24 cm, find the value of a , if the radius of outer circle is 13 cm.

- Q20** Three runners start simultaneously from the same point on a circular track of 1800 meters. Their speeds are 10 m/s, 15 m/s, and 12 m/s. After how many minutes will all three meet again at the starting point for the first time?



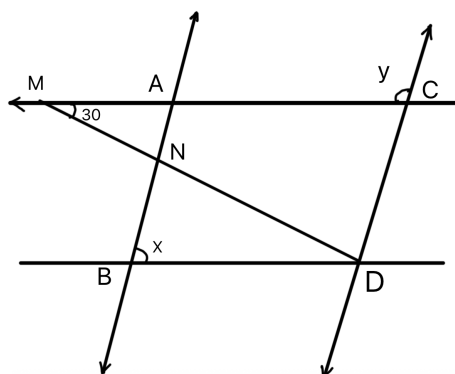
$\square ABCD$ is a parallelogram .
Find values of $y - 3(x + z)$.

- Q22** The fare for a half ticket for railway is half the fare for a full ticket. The reservation charges are same for both types of tickets. Rita booked one full ticket from Delhi to Pune and paid Rs. 2530 . Nina booked one full ticket and one half ticket for the same journey and paid Rs. 3810. Find the total reservation charges paid by Rita and Nina.
- Q23** A vendor bought lemons at 6 for a rupee and sold them at 4 for a rupee. What is his gain percentage?
- Q24** The average weight of a group of 8 elephants is increased by 200 kg when one elephant, weighing 2,200 kg, is replaced by a new elephant. What is the weight of the new elephant in quintals?

Q25

$$11.3 \times \frac{1.565 \times 1.565 + 3.13 \times 0.435 + 0.435 \times 0.435}{1.565 \times 1.565 - 0.435 \times 0.435} = ?$$

Q26



$DM \perp AB, \overline{AB} \parallel \overline{CD}, AC \parallel BD$
Find $(y^\circ - x^\circ)$ if $m\angle CMD = 30^\circ$

- Q27** The sum of a two-digit number and the number formed by reversing its digits is 132 . The difference between the two digits is 4 . Find the original number, given that the tens digit is larger than the units digit.

Q28

Solve for x :

$$\frac{x}{x+3} + \frac{x-1}{2-x} = \frac{3x+3}{(x+3)(x-2)}$$

- Q29** On 15th October 2025, the price of silver on was an all-time high of Rs. 1,95,000 per kilogram, which is 30% higher than the price on 1st October. Later, by the end of the month the price dropped by 20% from its peak on 15th October. What is the difference in the price of silver per 100 grams between 1st October and 31st October?

- Q30** Find the remainder when $12x^2 + 7x - 1$ is divided by $x - 1$