M. Prakash Institute **STD IX - Entrance Test 3**
19 April 2026 **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 Two numbers are in the ratio 2 : 3. Their LCM is 48. What is their sum?

Q2 If 50% of $(x - y) = 30\%(x + y)$, then what percent of x is y?

Q3 The number $0.\overline{657834}$ has the digits "657834" repeating again and again after the decimal point. What is the square of the digit that comes at the 1044^{th} place after the decimal?

Q4 x and y are inversely proportional. Given $x = 12$ when $y = 15$, find y when $x = 10$.

Q5 Before her latest innings in world cup cricket, a batter had played 9 matches. In the 10^{th} match she scored 49 runs, and her average rose by 4. Find her new average.

Q6 A man distributes 860 gold coins among five sons, four daughters, and two nephews. Each daughter gets 4 times as much as a nephew, and each son gets 5 times as much as a nephew. How many coins does each daughter get?

Q7 How many pieces of $\frac{2}{3}$ kg can be cut from a 4 kg cake?

Q8 $\dfrac{60}{Q} = \dfrac{1}{\sqrt{0.0225}}$. Find Q.

Q9 A regular polygon has each exterior angle equal to 72°. How many sides does the polygon have?

Q10 The number $30^{202} \times 7^{202} \times 13^{202}$ can be written in the form: $(a \times (a+1) \times (a+2))^{202}$ for some positive integer a. Find the value of a.

Q11 Pipes A and B fill a tank in 60 and 40 minutes, respectively. Pipe C empties it in 120 minutes. If all three are opened together, how many minutes will it take to fill the tank?

Q12 Three pairwise co-prime numbers x, y, and z satisfy $xy = 551$ and $yz = 1073$. Find $x + y + z$.

Q13 A 300 m long train, passes between two poles that are 100 m apart, in 36 seconds. Find its speed in km/h.

Q14 $2 + \dfrac{1}{5 + \dfrac{3-2}{4 + \dfrac{7}{8}}} = \dfrac{a}{b}$. Compute $(a + b - 600)$.

Q15 Find the smallest two-digit number that gives a remainder 1 when divided by 3, 4, and 5.

Q16 How many trailing zeros are there in 50!? (Use: $50! = 50 \times 49 \times \cdots \times 1$.)

Q17 Two pulleys are connected by a tight belt. Pulley A has radius 5 units, Pulley B has radius 3 units. If A completes 42 rotations, how many does B complete?

Q18 What is the angle between the hour and minute hands of a clock at 3:20? If this angle equals $\dfrac{t}{2}^\circ$, find t.

Q19 $\dfrac{\sqrt{1008}+\sqrt{720}+\sqrt[3]{5184}}{\sqrt{20}+\sqrt{28}+\sqrt[3]{24}}$=?

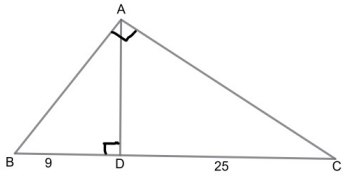
Q20 Two numbers differ by 20, and their product is 800. Find their sum.

Q21 A mango doubles every minute in a basket. If the basket gets full in 30 minutes, how many minutes it took to be $\frac{1}{4}$ full?

Q22 The inner circumference of a circular race track of width 14m is 440m. Find the radius of the outer track. (Use $\pi = \frac{22}{7}$.)

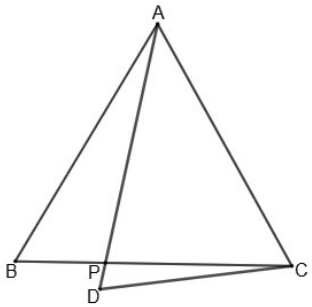
Q23 A regular polygon has each interior angle 150°. Find the total number of diagonals.

Q24



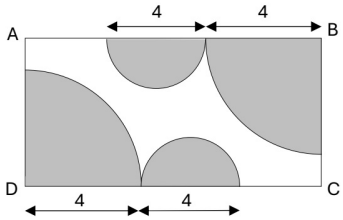
In $\triangle ABC$, $A = 90°$, $\overline{AD} \perp \overline{BC}$. $BD = 9, DC = 25$, Find AD.

Q25



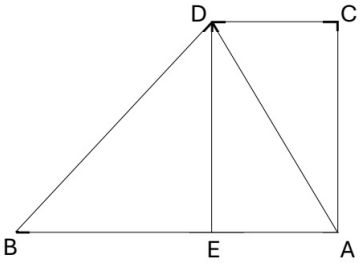
$\triangle ABC$ is equilateral. $\triangle ADC$ is isosceles with $AD = AC$. If m$\angle DAC = 40°$, find m$\angle DCP$.

Q26



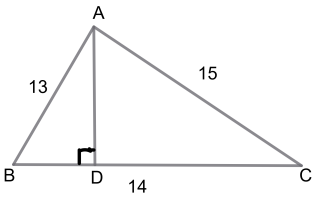
Given rectangle $ABCD$ with sides $AD = 5$ and $AB = 10$. If the area of the unshaded region is A, find $7A$.(Use $\pi = \frac{22}{7}$.) Shaded areas are quarter and semi-circles.

Q27



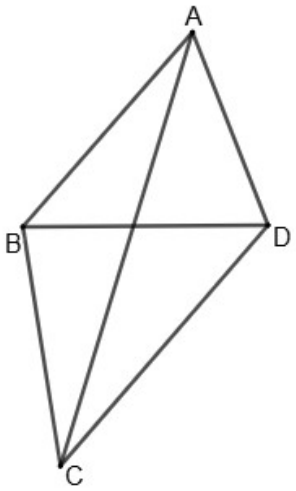
In the figure, $\square ACDE$ is a rectangle. If $AB = 14$, $AD = 13$ and $DC = 5$, find BD.

Q28



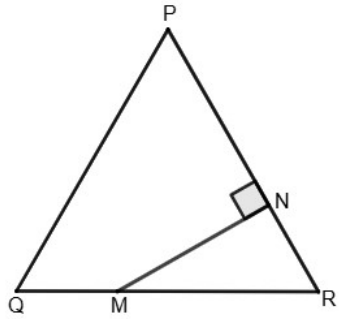
Find the length of altitude $\overline{AD}$, given $AB = 13$, $BC = 14$, $AC = 15$.

Q29



In $\triangle ABC$, given $AB = BC = BD$, m$\angle BCA = 26°$, m$\angle BDA = 66°$, find $\angle ACD$.

Q30



$\triangle PQR$ is an equilateral triangle, $MN \perp PR$. If $PN = 11, QM = 5$, find PQ.