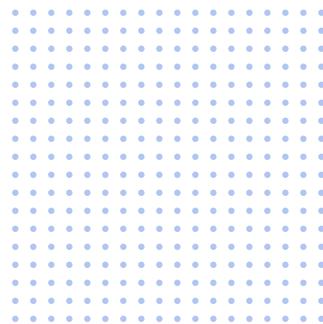




FOR CBSE CLASS 10 PREPARATION

CBSE Class 10 Sample Paper 2027 Solution (Marking Scheme) for Maths Standard

EXAM

CBSE Class 10

YEAR

2027

TYPE

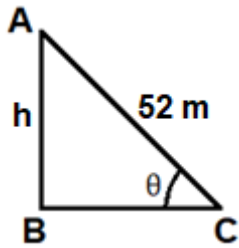
Solutions

SUBJECT

Maths Standard

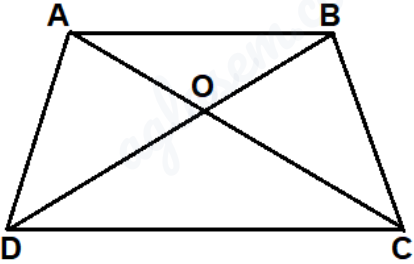
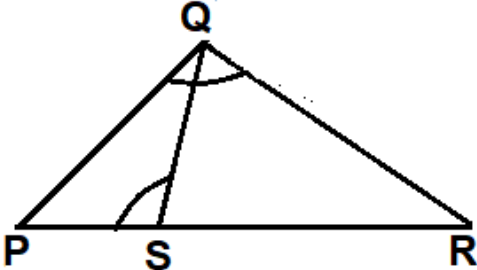
MATHEMATICS STANDARD – Code No. (041)**MARKING SCHEME****CLASS X (2026 - 27)****SECTION: A (Solution of MCQs of 1 Mark each, no part marks)**

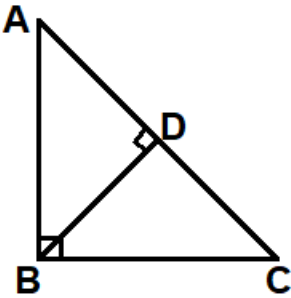
Q. No.	Ans.	Hints/Solution	Marks
1.	(B) 26	$134 - 4 = 130$ and $188 - 6 = 182$ $\text{HCF}(130, 182) = 26$	1
2.	(C) $-\frac{r}{p}$	Substituting $q = p + r$ in $f(x)$ $f(x) = px^2 + (p + r)x + r$ $= (x + 1)(px + r)$ Zeroes are -1 or $-\frac{r}{p}$.	1
3.	(B) II only	$(5, -1)$ is a solution of I: $3x - 3y = 18$ also. But this will make the system of equations as consistent and dependent. Only II: $2x - 3y = 13$ fulfills the given condition of having only one point of intersection.	1
4.	(C) $0, -1$	As $(1 - p)$ is a root of the quadratic equation $x^2 + px + 1 - p = 0$, $\therefore (1 - p)^2 + p(1 - p) + 1 - p = 0$, $\Rightarrow p = 1$ Now quadratic equation will be: $x^2 + x = 0$ $x(x + 1) = 0$ So the roots are $0, -1$	1
5.	(A) -26	$-62 = 10 + (n - 1)(-3) \Rightarrow n = 25$. Thus $\frac{25+1}{2} = 13^{\text{th}}$ term is the middle term. $\therefore a_{13} = 10 + 12(-3) = -26$	1
6.	(D) 17.5	Ratio of perimeters of similar triangles = ratio of their corresponding sides $\therefore \frac{56}{70} = \frac{14}{\text{corresponding side}}$ corresponding side = 17.5	1
7.	(A) $(0, 0)$	Mid-point of AB will lie on the perpendicular bisector of the line segment joining the points A $(-3, -4)$ and B $(3, 4)$. $\therefore$ Coordinates of mid-point of A and B are $\left(\frac{-3+3}{2}, \frac{-4+4}{2}\right) = (0, 0)$	1
8.	(C) $45^\circ, 15^\circ$	$\tan(A + B) = \sqrt{3}$ $\Rightarrow (A + B) = 60^\circ$ (i) $\tan(A - B) = \frac{1}{\sqrt{3}}$ $\Rightarrow (A - B) = 30^\circ$ (ii) Solving equation (i) and (ii), we get $A = 45^\circ$ and $B = 15^\circ$.	1
9.	(D) $\frac{5}{48}$	Total outcomes = 96 Perfect square numbers – 4, 9, 16, 25, 36, 49, 64, 81 perfect cubes are 8, 27, 64, common number is 64 Number of favourable outcomes = 10 $P(\text{either a perfect square or a perfect cube}) = \frac{10}{96} = \frac{5}{48}$	1

10.	(B) 10^5	Total revolutions = $\frac{66 \times 10^5 \times 7}{22 \times 21} = 10^5$	1
11.	(B) 160 cm^2	Side of cube = 4 cm Dimensions of resulting cuboid: length = 8 cm, breadth = 4 cm, height = 4 cm. Total surface area = $2 (8 \times 4 + 4 \times 4 + 8 \times 4) = 160 \text{ cm}^2$	1
12.	(D) 37.5	Let number of men be x and number of women be y $\frac{38x + 30y}{x + y} = 35$ $\Rightarrow 38x + 30y = 35x + 35y$ $\Rightarrow 3x = 5y$ $\therefore \frac{x}{y} = \frac{5}{3}$ % age of women = $\frac{3}{8} \times 100 = 37.5$	1
13.	(A) $\frac{1}{4}$	Total outcomes = 36 Favourable outcomes = (1, 1), (1, 2), (1, 3), (2, 1), (2, 2), (2, 3), (3, 1), (3, 2), (3, 3) $P(E) = \frac{9}{36} = \frac{1}{4}$	1
14.	(A) $2\sqrt{17}$ units	Coordinates of midpoint of QR i.e. M are $\left(\frac{6+0}{2}, \frac{4+0}{2}\right) = (3, 2)$ Median PM = $\sqrt{(5-3)^2 + (-6-2)^2} = \sqrt{68} = 2\sqrt{17}$ units	1
15.	(B) 8 cm	$A = \frac{1}{2} l \times r$ $\Rightarrow 24\pi = \frac{1}{2} \times 6\pi \times r$ $\Rightarrow r = 8 \text{ cm.}$	1
16.	(C) 25	Mode = 3 Median – 2 Mean $= 3(32) - 2(35.5) = 25$	1
17.	(C) 48 m	$\tan \theta = \frac{12}{5}$ $\therefore \sin \theta = \frac{12}{13}$ $\Rightarrow \frac{h}{52} = \frac{12}{13} \Rightarrow h = 48 \text{ m}$ 	1
18.	(B) $\frac{13}{46}$	Total remaining cards = $52 - (2 + 4) = 46$ $P(\text{a heart card}) = \frac{13}{46}$	1
19.	(A)	Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A) .	1
20.	(A)	Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A) .	1

Section –B

[This section comprises of solution of very short answer type questions (VSA) of 2 marks each]

Q. No.	HINTS/SOLUTION	Marks
21. (A)	<p>Length = 9.75 m = 975 cm Breadth = 6.75 m = 675 cm Height = 5.25 m = 525 cm Length of longest unmarked ruler = HCF (975, 675, 525)</p> $\left. \begin{array}{l} 975 = 3 \times 5^2 \times 13 \\ 675 = 3^3 \times 5^2 \\ 525 = 3 \times 5^2 \times 7 \end{array} \right\}$ <p>$\therefore \text{HCF (975, 675, 525)} = 3 \times 5^2 = 75$ Hence, the length of longest unmarked ruler is 75 cm or 0.75 m</p>	<p>$\frac{1}{2}$ 1 $\frac{1}{2}$</p>
	OR	
21. (B)	<p>LCM of 5, 6 and 8 is 120 i.e., all the bells toll together after an interval of 120 minutes or 2 hours. Thus, all the bells will again toll together at 12:00 noon, 2:00 pm, 4:00 pm and 6 p.m. i.e., 4 times So, the bells will toll together 4 more times, till the park is closed at 7:00 p.m.</p>	<p>1 1</p>
22. (A)	 <p>In $\triangle AOB$ and $\triangle COD$ $\angle OAB = \angle OCD$ $\angle OBA = \angle ODC$ } (Alternate interior angles) $\therefore \triangle AOB \sim \triangle COD$ (AA criterion) $\Rightarrow \frac{AO}{CO} = \frac{BO}{DO}$ or $\frac{AO}{BO} = \frac{CO}{DO}$</p>	<p>1 $\frac{1}{2}$ $\frac{1}{2}$</p>
	OR	
22. (B)	 <p>In $\triangle PRQ$ and $\triangle PQS$ $\angle PQR = \angle QSP$ (Given) $\angle QPR = \angle QPS$ (Common) $\therefore \triangle PRQ \sim \triangle PQS$ (AA criterion)</p>	1

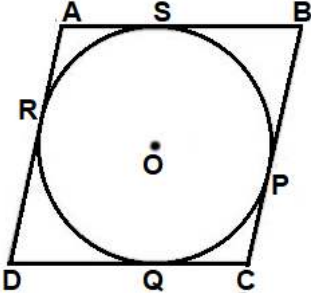
	$\Rightarrow \frac{PQ}{PS} = \frac{PR}{PQ} \Rightarrow \frac{6}{3} = \frac{PR}{6}$ $\therefore PR = 12 \text{ cm}$ <p><u>For visually Impaired Candidates:</u></p>  <p>In triangle BCD and triangle ACB Angle BDC = Angle ABC (each 90 degree) Angle BCD = Angle ACB (common) $\therefore$ Triangle BCD is similar to Triangle ACB (AA criterion)</p>	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1
23.	$\tan \theta = \frac{1}{\sqrt{5}} \Rightarrow \cot \theta = \sqrt{5}$ $\sec^2 \theta = 1 + \tan^2 \theta = 1 + \left(\frac{1}{\sqrt{5}}\right)^2 = \frac{6}{5}$ <p>and $\operatorname{cosec}^2 \theta = 1 + \cot^2 \theta = 1 + (\sqrt{5})^2 = 6$</p> $\therefore \frac{\operatorname{cosec}^2 \theta - \sec^2 \theta}{\operatorname{cosec}^2 \theta + \sec^2 \theta} = \frac{6 - \frac{6}{5}}{6 + \frac{6}{5}} = \frac{2}{3}$	$\frac{1}{2}$ $\frac{1}{2}$ 1
24.	$\text{Radius} = \frac{28}{2} = 14 \text{ cm}$ $\text{Area of sector} = \frac{1}{2} \times l \times r$ $= \frac{1}{2} \times 22 \times 14$ $= 154 \text{ cm}^2$	$\frac{1}{2}$ 1 $\frac{1}{2}$
25.	<p>Total number of outcomes = 36</p> <p>Favourable outcomes = 6 $\{(1,2), (1,3), (1,5), (2,1), (3,1), (5,1)\}$</p> $P(\text{Prime Product}) = \frac{6}{36} = \frac{1}{6}$	$\frac{1}{2}$ $\frac{1}{2}$ 1

Section – C

[This section comprises of solution short answer type questions (SA) of 3 marks each]

Q. No.	HINTS/SOLUTION	Marks
26.	<p>Let us assume that $2 + 3\sqrt{3}$ be rational number.</p> <p>Then $2 + 3\sqrt{3} = \frac{a}{b}$, where 'a' and 'b' are integers & $b \neq 0$</p> $\Rightarrow \sqrt{3} = \frac{a - 2b}{3b}$	1

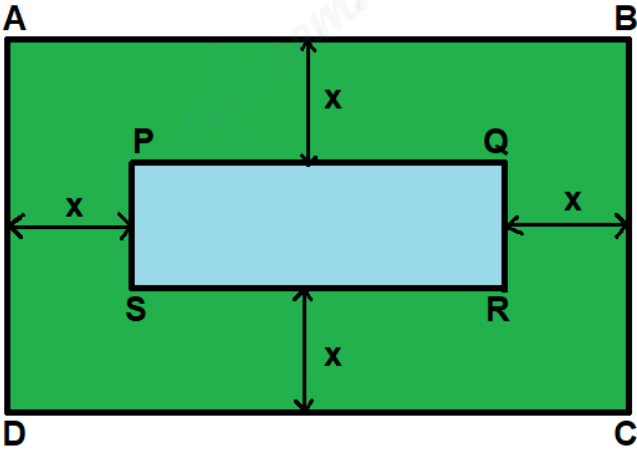
	<p>Since 'a' and 'b' are integers.</p> <p>$\therefore \frac{a-2b}{3b}$ is rational number.</p> <p>So, $\sqrt{3}$ is rational number which contradicts the given fact that $\sqrt{3}$ is irrational number.</p> <p>Hence, our assumption is wrong. Therefore $2 + 3\sqrt{3}$ is irrational number.</p>	<p>1</p> <p>1</p>
27.	<p>$\alpha + \beta = 4$ and $\alpha\beta = \frac{5}{2}$</p> $\left(\alpha + \frac{1}{\beta}\right) \times \left(\beta + \frac{1}{\alpha}\right) = \left(\frac{\alpha\beta + 1}{\beta}\right) \times \left(\frac{\alpha\beta + 1}{\alpha}\right) = \frac{(\alpha\beta + 1)^2}{\alpha\beta}$ $= \frac{\left(\frac{5}{2} + 1\right)^2}{\frac{5}{2}}$ $= \frac{49}{10}$	<p>1</p> <p>$\frac{1}{2}$</p> <p>1</p> <p>$\frac{1}{2}$</p>
28. (A)	<p>Number of the sides of the given polygon is 'n'.</p> <p>The exterior angles of the given polygon are in A.P.</p> <p>Here $a = 8$ and $d = 4$</p> <p>As sum of all the exterior angles of a polygon is 360°</p> <p>$\therefore S_n = 360$</p> <p>$\Rightarrow \frac{n}{2} [2 \times 8 + (n-1) \times 4] = 360$</p> <p>$\Rightarrow n^2 + 3n - 180 = 0$</p> <p>$\Rightarrow (n+15)(n-12) = 0$</p> <p>$\therefore n = -15$ or 12</p> <p>Angle is always positive.</p> <p>$\therefore n = 12$</p> <p>So, the number of sides in the given polygon is 12.</p>	<p>1</p> <p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p>
	OR	
28. (B)	<p>Required A.P. is 20, 40, 60, ..., 380</p> <p>Here $a = 20$ and $d = 20$</p> <p>Let $a_n = 380$</p> <p>$\Rightarrow 20 + (n-1) \times 20 = 380$</p> <p>$\Rightarrow n = 19$</p> <p>$\therefore S_{19} = \frac{19}{2} [20 + 380]$</p> <p>$= 3800$</p>	<p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p>

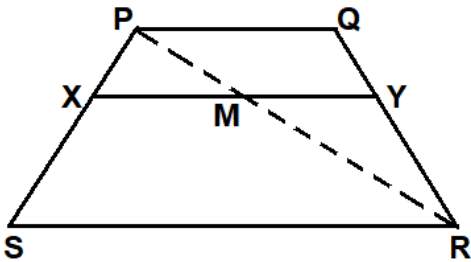
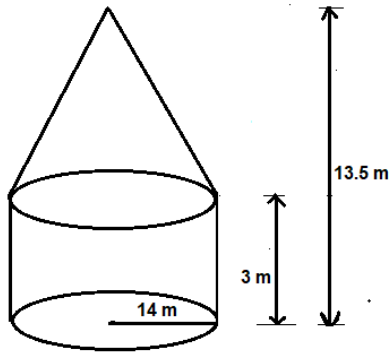
29.	 <p>Given, ABCD is a parallelogram circumscribing a circle.</p> $\left. \begin{array}{l} AS = AR \text{ --- (i)} \\ BS = BP \text{ --- (ii)} \\ CQ = CP \text{ --- (iii)} \\ DQ = DR \text{ --- (iv)} \end{array} \right\} \begin{array}{l} \text{(Length of tangents drawn from an external point to} \\ \text{a circle are equal)} \end{array}$ <p>Adding (i), (ii), (iii) and (iv), we get $AS + BS + CQ + DQ = AR + BP + CP + DR$ $\Rightarrow AB + CD = AD + BC$ $\Rightarrow 2 AB = 2 AD$ $\Rightarrow AB = AD$</p> <p>Since adjacent sides of parallelogram ABCD are equal. Therefore, ABCD is a rhombus.</p>	<p>1</p> <p>1</p> <p>1</p>
30.	$\begin{array}{ccc} \text{A} & k : 1 & \text{B} \\ (-4, -6) & \text{P} & (-1, 7) \end{array}$ <p>Let x-axis divides the line segment joining the points A (– 4, – 6) and B (–1, 7) at P (x, 0) in the ratio k:1.</p> <p>Coordinates of P are $\left[\frac{k(-1) + 1(-4)}{k+1}, \frac{k(7) + 1(-6)}{k+1} \right]$ or $\left[\frac{-k-4}{k+1}, \frac{7k-6}{k+1} \right]$</p> <p>Since point P lies on x – axis $\therefore \frac{7k-6}{k+1} = 0 \Rightarrow k = \frac{6}{7}$</p> <p>So, point P divides AB in the ratio 6:7</p> <p>Coordinates of P, are $\left(\frac{-34}{13}, 0 \right)$.</p>	<p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>1</p>
31. (A)	<p>Jyoti made error in step 2.</p> <p>The correct solution is as under:</p> $\begin{aligned} & \frac{\cos \theta}{1 - \sin \theta} + \frac{1 - \sin \theta}{\cos \theta} \\ &= \frac{\cos^2 \theta + (1 - \sin \theta)^2}{(1 - \sin \theta) \times \cos \theta} \\ &= \frac{\cos^2 \theta + 1 + \sin^2 \theta - 2 \sin \theta}{(1 - \sin \theta) \times \cos \theta} \\ &= \frac{2 - 2 \sin \theta}{(1 - \sin \theta) \times \cos \theta} \end{aligned}$	<p>1</p> <p>$\frac{1}{2}$</p>

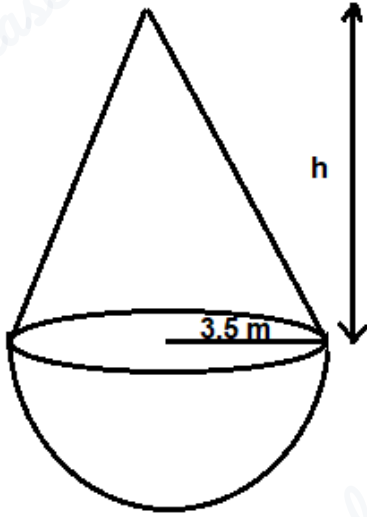
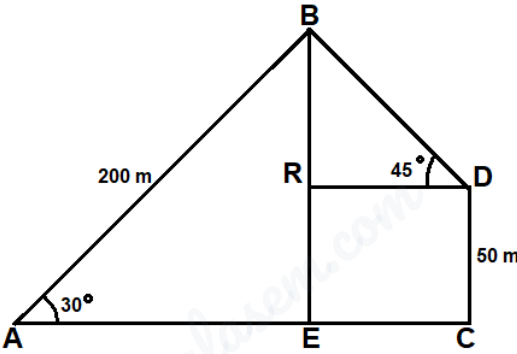
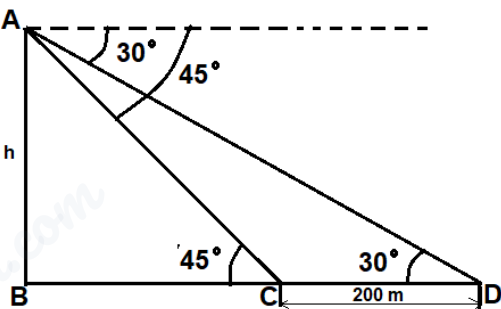
	$= \frac{2 \times (1 - \sin \theta)}{(1 - \sin \theta) \times \cos \theta}$ $= \frac{2}{\cos \theta} = 2 \sec \theta$	1/2
	OR	
31. (B)	<p>Given: $\frac{1}{\sin x - \cos x} = \frac{\operatorname{cosec} x}{\sqrt{2}}$</p> <p>$\Rightarrow \sin x - \cos x = \sqrt{2} \sin x$</p> <p>Squaring both sides, we get</p> <p>$2 \sin x \cos x = 1 - 2 \sin^2 x$ --- (i)</p> <p>Now, LHS = $\left(\frac{1}{\sin x + \cos x} \right)^2 = \frac{1}{1 + 2 \sin x \cos x}$</p> <p>$= \frac{1}{1 + (1 - 2 \sin^2 x)} = \frac{1}{2 \cos^2 x}$</p> <p>$= \frac{\sec^2 x}{2} = \text{RHS}$</p>	<p>1/2</p> <p>1</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>

Section –D

[This section comprises of solution of long answer type questions (LA) of 5 marks each]

Q. No.	HINTS/SOLUTION	Marks
32.	 <p>ABCD is the rectangular park and PQRS is the swimming pool. Let 'x' be the uniform width of the grass strip.</p> <p>Then, length of the swimming pool, PQ = (50 – 2x) m and breadth of the swimming pool, QR = (40 – 2x) m</p> <p>Area of rectangular park – Area of swimming pool = Area of grass strip.</p> $50 \times 40 - (50 - 2x)(40 - 2x) = 1184$ $\Rightarrow x^2 - 45x + 296 = 0$ $\Rightarrow (x - 8)(x - 37) = 0$ $\Rightarrow x = 8, 37$ <p>Rejecting x = 37, as length and breadth cannot be negative integers.</p>	<p>1/2</p> <p>1</p> <p>1</p> <p>1/2</p>

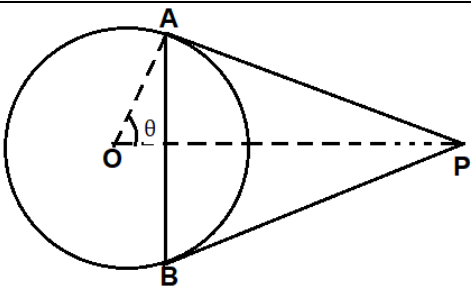
	$\therefore x = 8$ Thus, length of the swimming pool = $(50 - 2x) = 50 - 16 = 34 \text{ m}$. and breadth of the swimming pool = $(40 - 2x) = 40 - 16 = 24 \text{ m}$	1 $\frac{1}{2}$ $\frac{1}{2}$
33.	<p>Correct figure, given, to prove, construction Correct proof</p>  <p>Join PR intersecting XY at M.</p> <p>In ΔPSR, $XM \parallel SR$</p> $\therefore \frac{PX}{XS} = \frac{PM}{MR} \quad \dots (i)$ <p>In ΔPQR, $MY \parallel PQ$</p> $\therefore \frac{QY}{YR} = \frac{PM}{MR} \quad \dots (ii)$ <p>From (i) and (ii), we get</p> $\frac{PX}{XS} = \frac{QY}{YR}$	1 2 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
34. (A)	 <p>Height of Conical part = $13.5 - 3 = 10.5 \text{ m}$</p> <p>Slant height ($l$) = $\sqrt{(14)^2 + (10.5)^2} = 17.5 \text{ m}$</p> <p>CSA of Conical part = $\pi r l = \frac{22}{7} \times 14 \times 17.5 = 770 \text{ m}^2$</p> <p>CSA of Cylindrical part = $2\pi rh = 2 \times \frac{22}{7} \times 14 \times 3 = 264 \text{ m}^2$</p> <p>Total area of canvas required = CSA of conical part + CSA of cylindrical part + Wastage = $770 + 264 + 26 = 1060 \text{ m}^2$</p> <p>Cost of canvas to be purchased @ ₹ 250 / m^2 = $250 \times 1060 = ₹ 265000$</p>	$\frac{1}{2}$ 1 1 1 $\frac{1}{2}$ 1
	OR	

<p>34. (B)</p>	<p>Let 'h' cm be the height of conical part.</p> <p>Volume of wood in the toy = Volume of conical part + Volume of hemispherical part</p> $166\frac{5}{6} = \frac{1}{3} \times \pi \times r^2 \times h + \frac{2}{3} \times \pi \times r^3$ $\Rightarrow \frac{1001}{6} = \frac{1}{3} \times \frac{22}{7} \times (3.5)^2 \times h + \frac{2}{3} \times \frac{22}{7} \times (3.5)^3$ $\Rightarrow h = 6 \text{ cm}$ <p>CSA of hemispherical part = $2 \times \pi \times r^2$</p> $= 2 \times \frac{22}{7} \times (3.5)^2$ $= 77 \text{ cm}^2$ <p>Cost of painting hemispherical part @ ₹ 15 / cm² = 15×77</p> $= ₹ 1155$	 <p>2</p> <p>1</p> <p>1</p> <p>1</p>
<p>35. (A)</p>	 <p>Correct figure</p> <p>Let Manish is standing at point 'A' and Mahesh is standing at point 'D'.</p> <p>Distance of kite from Manish = 200 m</p> <p>In rt. angled ΔAEB</p> $\frac{BE}{200} = \sin 30^\circ = \frac{1}{2}$ $\Rightarrow BE = 100 \text{ m}$ <p>$BR = BE - RE = BE - DC = 100 - 50 = 50 \text{ m}$</p> <p>In rt. angled ΔBRD</p> $\frac{50}{BD} = \sin 45^\circ = \frac{1}{\sqrt{2}}$ $\Rightarrow BD = 50\sqrt{2} \text{ m}$ <p>$\therefore$ Distance of kite from Mahesh is $50\sqrt{2} \text{ m}$</p>	<p>1</p> <p>1</p> <p>$\frac{1}{2}$</p> <p>1</p> <p>1</p> <p>$\frac{1}{2}$</p>
	<p>OR</p>	
<p>35. (B)</p>		

Correct figure	1
Let the height of the lighthouse be 'h' m.	
In rt. angled ΔABC	
$\frac{h}{BC} = \tan 45^\circ = 1$	1
$\Rightarrow BC = h$ --- (i)	$\frac{1}{2}$
In rt. angled ΔABD	
$\frac{h}{h + 200} = \tan 30^\circ = \frac{1}{\sqrt{3}}$	1
$\Rightarrow h = \frac{200}{\sqrt{3} - 1} \times \frac{\sqrt{3} + 1}{\sqrt{3} + 1}$	$\frac{1}{2}$
$\Rightarrow h = 100(\sqrt{3} + 1)$	1
$\therefore$ height of the lighthouse is $100(\sqrt{3} + 1)$ m.	

Section –E

[This section comprises solution of 3 case- study/passage-based questions of 4 marks]

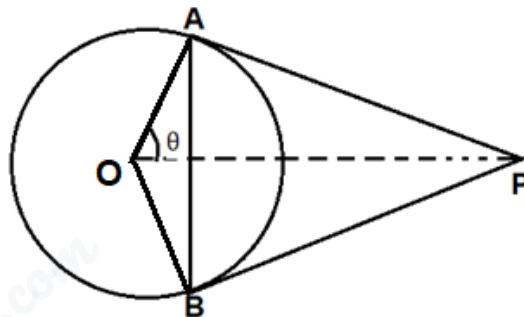
Q. No.	HINTS/SOLUTION	Marks
36.	<p>Let the number of small bottles and large bottles be 'x' and 'y' respectively.</p> <p>(i) $10x + 15y = 12750$ or $2x + 3y = 2550$</p> <p>(ii) $12x + 17y = 34250$</p> <p>(iii) (A) According to the question,</p> $\left. \begin{array}{ll} x + y = 1000 & \text{--- (i)} \\ 10x + 15y = 12750 & \text{--- (ii)} \end{array} \right\}$ <p>Solving (i) and (ii), we get $x = 450$ & $y = 550$</p> <p>Number of small and large bottles sold are 450 and 550 respectively.</p> <p style="text-align: center;">OR</p> <p>(iii) (B) According to the question,</p> $\left. \begin{array}{ll} x + y = 2500 & \text{--- (i)} \\ 12x + 17y = 34250 & \text{--- (ii)} \end{array} \right\}$ <p>Solving (i) and (ii), we get $x = 1650$ & $y = 850$</p> <p>Number of small and large bottles sold are 1650 and 850 respectively.</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
37.	 <p>(i) $\angle OAP = 90^\circ$ (Radius is perpendicular to tangent at the point of contact)</p>	1

(ii) In right angled ΔOAP , $OP^2 = OA^2 + AP^2$

$$\Rightarrow (18)^2 = (9)^2 + AP^2$$

$$\Rightarrow AP = \sqrt{243} = 9\sqrt{3} \text{ m}$$

(iii) (A)



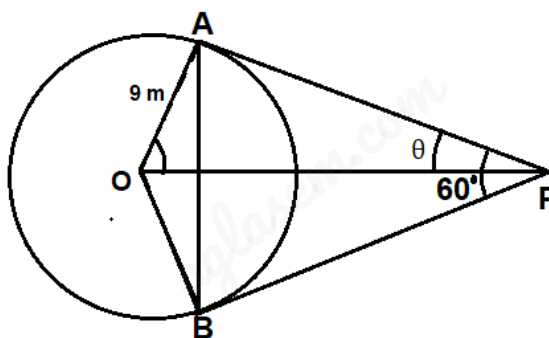
In right angled ΔOAP , $\cos \theta = \frac{9}{18} = \frac{1}{2} = \cos 60^\circ$

$$\Rightarrow \theta = 60^\circ$$

$$\therefore \angle AOB = 2\theta = 120^\circ$$

OR

(iii) (B)



If tangent inclined at 60° , then $\angle OPA = \frac{1}{2} \times 60^\circ = 30^\circ$

In right angled ΔOPA , $\frac{9}{AP} = \tan 30^\circ = \frac{1}{\sqrt{3}}$

$$\Rightarrow AP = 9\sqrt{3} \text{ m}$$

38.

(i) 30 – 40

(ii)

Marks	Number of students (<i>f</i>)	<i>cf</i>
0 – 10	3	3
10 – 20	6	9
20 – 30	12	21
30 – 40	15	36
40 – 50	14	50

Since $\frac{N}{2} = 25$. $\therefore$ Median class is 30 – 40.

$\frac{1}{2}$

$\frac{1}{2}$

1

$\frac{1}{2}$

$\frac{1}{2}$

$\frac{1}{2}$

1

$\frac{1}{2}$

1

1

(iii) (A)

C.I.	f_i	x_i	$f_i x_i$
0 – 10	3	5	15
10 – 20	6	15	90
20 – 30	12	25	300
30 – 40	15	35	525
40 – 50	14	45	630
Total	50		1560

Average performance i.e. mean = $\frac{1560}{50} = 31.2$

OR(iii) (B) Here, modal class is 30 – 40, $f_0 = 12$, $f_1 = 15$, $f_2 = 14$

$$\begin{aligned} \text{Mode} &= 30 + \left(\frac{15 - 12}{2 \times 15 - 12 - 14} \right) \times 10 \\ &= 37.5 \end{aligned}$$

Correct
Table
1

1

 $\frac{1}{2}$

1

 $\frac{1}{2}$