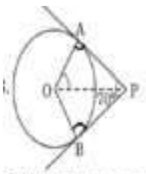
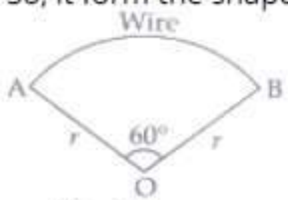
KENDRIYA VIDYALAYA SANGATHAN
BHOPAL REGION
10^{TH} PREBOARD 1
MATHS SOLUTION (SET 1)

SECTION A

1. (b)0 **2. (b)a < 0, b < 0 and c > 0** **3. (c)no solution** **4. (c) -14** **5. (c) 3**
6. (b) 2√10 **7. (a) (-1,2)** **8. (a) 50^0** **9. (d) 130^0** **10. (b) 10√2**
11. (c) 9 **12. (d) 1** **13. (d) 100 m** **14. (c) 31.5 cm^2** **15. (c) 2π/3 cm**
16. (c) 2/7 **17. (d) 1/3** **18. (a) 15** **19. (d)** **20. (a)**

SECTION B

21.	The prime factorization of 2520 are $2520 = 2^3 \times 3^2 \times 5 \times 7$ ----------(1) It is given that $2520 = 2^3 \times 3^p \times q \times 7$ -----------(2) On comparing equation (1) and (2) we get p = 2 and q = 5 OR Clearly, the maximum number of columns = HCF (612, 48). 2 | 612; 2 | 306; 3 | 153; 3 | 51; 17 2 | 48; 2 | 24; 2 | 12; 2 | 6; 3 Now, $612 = 2 \times 2 \times 3 \times 3 \times 17 = (2^2 \times 3^2 \times 17)$ and $48 = 2 \times 2 \times 2 \times 2 \times 3 = (2^4 \times 3)$. $\therefore$ HCF (612, 48) $= (2^2 \times 3) = (4 \times 3)$ $\therefore$ HCF (612, 48)= 12. $\therefore$ Maximum number of columns in which they can march = 12.	**0.5** **0.5** **1** **1** **0.5** **0.5**
22.	In $\triangle ABE$, we have $DF \| AE$, then $\frac{BD}{AD} = \frac{BF}{FE}$ [By BPT] ...... (i) In $\triangle ABC$, we have $DE \| AC$, then $\frac{BD}{AD} = \frac{BE}{EC}$ [By BPT] ...... (2) From (i) and (2), We get $\frac{BF}{FE} = \frac{BE}{EC}$	**0.5** **0.5** **1**
23.	 PA and PB are tangents to the circle. We know that the tangent to a circle is perpendicular to the radius through the Thus, OA ⊥ PA and OB ⊥ PB $\therefore \angle OBP = 90^0$ and $\angle OAP = 90^0$ In quadrilateral AOBP, $\angle OAP + \angle APB + \angle PBO + \angle BOA = 360^0$ (Sum of all interior angles of quadrilateral is 360^0) $90^0 + 70^0 + 90^0 + \angle BOA = 360^0$ $\angle BOA = 110^0$ In $\triangle OPA$ and $\triangle OPB$, AP = BP (Tangents from a point outside the circle are equal in length) OA = OB (Radii of the same circle) OP = OP (Common side) $\therefore \triangle OPA \cong \triangle OPB$ (SSS congruence criterion) $\Rightarrow \angle POA = \angle POB$ $\Rightarrow \angle POA = \frac{1}{2}\angle AOB = \frac{110^0}{2} = 55^0$	**0.5** **1** **0.5**

24.	We have, $\cos(A - B) = \frac{\sqrt{3}}{2}$ $\Rightarrow \cos(A-B) = \cos 30^\circ$ $A - B = 30^\circ$ .....(i) Again, $\sin(A + B) = \frac{\sqrt{3}}{2}$ $\Rightarrow \sin(A+B) = \sin 60^\circ$ $A + B = 60^\circ$.........(ii) Adding, (i) and (ii), $2A = 90^\circ$ $\therefore A = 45^\circ$ Put $A=45^o$ in (ii), $B = 60^\circ - A = 60^\circ - 45^\circ = 15^\circ$ Therefore, $A=45^o$ and $B=15^o$ OR $2(\sin^2 45^o + \cot^2 30^o) - 6(\cos^2 45^o - \tan^2 30^o)$ $\left[\left(\frac{1}{\sqrt{2}}\right)^2 + (\sqrt{3})^2\right] - 6\left[\left(\frac{1}{\sqrt{2}}\right)^2 - \left(\frac{1}{\sqrt{3}}\right)^2\right]$ $= 7 - 1 = 6$	**0.5** **0.5** **0.5** **0.5** **1** **1**
25.	Arc is a part of circle that makes 60° between radii at end points A and B of wire. So, it form the shape of a sector.  $r = ?\ l = 20$ cm $\therefore$ Length of arc $l = \frac{2\pi r\theta}{360^\circ}$ $\Rightarrow 20 \text{ cm} = \frac{2\times\pi\times r\times 60^\circ}{360^\circ}$ $\Rightarrow 2\pi r = 20 \times 6$ $\Rightarrow r = \frac{120}{2\pi} = \frac{60}{\pi}$ cm Hence, radius (r) = $\frac{60}{\pi}$ cm.	**0.5** **0.5** **1**
	SECTION C	
26.	Let us prove $\sqrt{5}$ irrational by contradiction.Let us suppose that $\sqrt{5}$ is rational. It means that we have co-prime integers *a* and b ($b \neq 0$)Such that $\sqrt{5}=a/b$ Squaring both sides, we get $5b^2 = a^2$ ... (1) It means that 5 is factor of a^2. Hence, 5 is also factor of *a* by Theorem. ... (2) If, 5 is factor of *a* , it means that we can write $a = 5c$ for some integer *c* . Substituting value of *a* in (1) $5b^2 = 25c^2 \Rightarrow b^2 = 5c^2$ It means that 5 is factor of b^2 . Hence, 5 is also factor of *b* by Theorem. ... (3) From (2) and (3) , we can say that 5 is factor of both *a* and *b*.But,*a* and *b* are co-prime . Therefore, our assumption was wrong. $\sqrt{5}$ cannot be rational. Hence, it is irrational.	**0.5** **0.5** **0.5** **0.5** **1**

27.	Let the required polynomial be $ax^2 + bx + c$ and let its zeroes be α and β Then, $\alpha + \beta = \frac{1}{4} = -\frac{b}{a}$ and $\alpha\beta = -1 = \frac{c}{a}$ If a = 4, then b = -1 and c = -4 So, one quadratic polynomial which satisfies the given conditions is $4x^2 - x - 4$ Or If α and β zeroes of the polynomials then standard quadratic polynomial is given by $x^2 - (\alpha + \beta)x + \alpha\beta$, where $\alpha + \beta = \frac{1}{4}$ *and* $\alpha\beta = -1$ [Given] Now, we have, $x^2 - (\alpha + \beta)x + \alpha\beta$ $= x^2 - \left(\frac{1}{4}\right)x + (-1)$ $= \frac{1}{4}(4x^2 - x - 4)$ Required polynomial is $4x^2 - x - 4$	**1.5** **1.5** **1** **1** **1**
28.	When 3 coins are tossed simultaneously, all possible outcomes are HHH, HHT, HTH, THH, HTT, THT, TTH, TTT. Total number of possible outcomes = 8. i. Let E_1 be the event of getting exactly 2 heads. Then, the favourable outcomes are HHT, HTH, THH. Number of favourable outcomes = 3. ∴ P(getting exactly 2 heads) $= P(E_1) = \frac{3}{8}$. ii. Let E_2 be the event of getting at least 2 heads. Then, E_2 is the event of getting 2 or 3 heads. So, the favourable outcomes are HHT, HTH, THH, HHH. Number of favourable outcomes = 4. ∴ P(getting at least 2 heads) = $\frac{4}{8} = \frac{1}{2}$. iii. Let E_3 be the event of getting at most 2 heads. Then, E_3 is the event of getting 0 or 1 head or 2 heads. So, the favourable outcomes are TTT, HTT, THT, TTH, HHT, HTH, THH. Number of favourable outcomes = 7. ∴ P(getting at most 2 heads) $= P(E_3) = \frac{7}{8}$.	**1** **1** **1**
29.	Let the fixed charges be Rs x and additional charges be Rs. y per km. Then charges paid for journey of 12km= $x+12y$ Atq: $x+12y=89$ -------(i) And, charges paid for journey of 20km= $x+20y$ Atq: $x+20y=145$ -------(ii) Subtracting eq.(i) from (ii) $x+20y-(x+12y)=145-89$ $\Rightarrow 8y=56$ $\Rightarrow y=7$ By eq.(i) $x+12\times7=89$ => x= 5 Now, charges paid for a journey of 30 km= $x+30y=5+30\times7=Rs.215$ OR Let tens digit be x and unit digit be y. Then the number= $10x+y$ and the number formed by interchanging the digits= $10y+x$ Given that: $x+y=15$ -----------(i) and $10y+x=10x+y+9$ $\Rightarrow 9x-9y=-9$ $\Rightarrow x-y=-1$ -------------(ii) Solving eq (i) and (ii) x=7 and y= 8 So the number = 10×7+8=78	**1** **1** **0.5** **0.5** **1** **1** **0.5** **0.5**

30.

We have, p = sinθ + cosθ and q = secθ + cosecθ

$\therefore$ LHS = q(p^2 -1) = (secθ + cosecθ) {(sinθ + cosθ)^2 - 1 }

= $\left(\frac{1}{\cos\theta}+\frac{1}{\sin\theta}\right)\left\{\sin^2\theta+\cos^2\theta+2\sin\theta\cos\theta-1\right\}$ **1**

= $\left(\frac{\sin\theta+\cos\theta}{\cos\theta\sin\theta}\right)(1+2\sin\theta\cos\theta-1)$ **1**

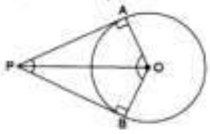
= $\left(\frac{\sin\theta+\cos\theta}{\cos\theta\sin\theta}\right)(2\sin\theta\cos\theta)=2(\sin\theta+\cos\theta)$ = 2p = RHS **1**

31.

$\angle$OAP = 90^0 ....(1) [Angle between tangent and radius through the point of contact is 90^0] **0.5**

$\angle$OBP = 90^0 ....(2) [Angle between tangent and radius through the point of contact is 90^0] **0.5**

$\therefore$ OAPB is quadrilateral



$\therefore$ $\angle$APB + $\angle$AOB + $\angle$OAP + $\angle$OBP = 360^0 [Angle sum property of a quadrilateral] **0.5**

$\Rightarrow$ $\angle$APB + $\angle$AOB + 90^0 + 90^0 = 360^0 [From (1) and (2)] **1**

$\Rightarrow$ $\angle$APB + $\angle$AOB = 180^0 **0.5**

$\Rightarrow$ $\angle$APB and $\angle$AOB are supplementary

OR

We know that the lengths of tangents drawn from an exterior point to a circle are equal

$\therefore$AE = AF = x cm (say);

BD = BF = 6 cm; **0.5**

CD = CE = 8 cm

And so, AB = AF + BF = (x + 6) cm; BC = BD + CD = 14 cm; **1**

CA = CE + AE = (x + 8) cm.

Join OE and OF and also OA, OB and OC.

$\therefore\quad \operatorname{ar}(\triangle ABC)=\operatorname{ar}(\triangle OAB)+\operatorname{ar}(\triangle OBC)+\operatorname{ar}(\triangle OCA)$

$\Rightarrow 63=\left(\frac{1}{2}\times AB\times OF\right)+\left(\frac{1}{2}\times BC\times OD\right)+\left(\frac{1}{2}\times CA\times OE\right)$ **1**

$\Rightarrow 63=\left\{\frac{1}{2}\times(x+6)\times 3\right\}+\left(\frac{1}{2}\times 14\times 3\right)+\left\{\frac{1}{2}\times(x+8)\times 3\right\}$

$\Rightarrow\quad 63=\frac{3}{2}\times(2x+28)\Rightarrow x=7$

$\therefore$ AB = (x + 6)cm = (7 + 6)cm = 13 cm **0.5**

SECTION D

32.

Class	x_i	f_i	$u_i=\frac{x-97.5}{5}$	f_iu_i	c.f.
85 - 90	87.5	10	-2	-20	10
90 - 95	92.5	12	-1	-12	22
95 - 100	97.5	15	0	0	37
100 - 105	102.5	14	1	14	51
105 - 110	107.5	12	2	24	63
110 - 115	112.5	7	3	21	70
				27	

2.5

Mean = 97·5 + $\left(5\times\frac{27}{70}\right)$ = 99.4 **1**

f = 15, c.f. = 22, l = 95 **0.5**

Median class : 95 - 100

Median = 95 + $\frac{5}{15}(35-22)$ = 99.3 **1**

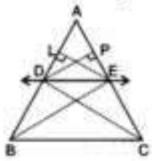
33.

Given : A triangle ABC, DE | | BC, intersecting AB at D and AC at E.

To Prove: $\frac{AD}{DB}=\frac{AE}{EC}$

Construction: Join BE, CD and draw EL $\perp$ AD and DP $\perp$ AE.

Given, to prove, diagram (1)



Proof: $\triangle$BDE and $\triangle$CDE are on the same base DE and between the same parallel lines BC and DE,

Hence ar($\triangle$BDE) = ar($\triangle$CDE) ....(i)

Now, $\frac{\operatorname{ar}(\Delta ADE)}{\operatorname{ar}(\Delta BDE)}=\frac{\frac{1}{2}\cdot AD\times EL}{\frac{1}{2}\cdot BD\times EL}=\frac{AD}{BD}$ ....(ii)

Similarly, $\frac{\operatorname{ar}(\Delta ADE)}{\operatorname{ar}(\Delta CDE)}=\frac{\frac{1}{2}AE\times DP}{\frac{1}{2}EC\times DP}=\frac{AE}{EC}$ ....(iii) 1

From (i), eq (iii) becomes

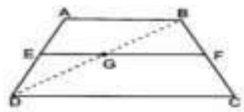
$\frac{\operatorname{ar}(\Delta ADE)}{\operatorname{ar}(\Delta BDE)}=\frac{AE}{EC}$ ....(iv)

From (ii) and (iv) we get, 1

$\Rightarrow\quad \frac{AD}{BD}=\frac{AE}{EC}$

Hence proved

Consider the given trapezium ABCD. Join BD intersecting EF at G.



It is proved above that if a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio. So,

In $\triangle$DAB, EG || AB,

$\therefore\quad \frac{AE}{DE}=\frac{BG}{GD}$ ....(v) 1

In $\triangle$BCD, GF || DC

$\therefore\quad \frac{BG}{GD}=\frac{BF}{FC}$ ....(vi)

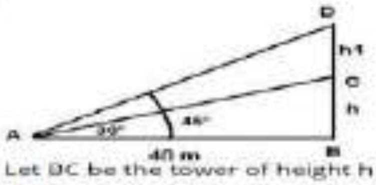
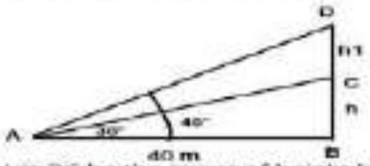
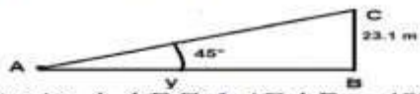
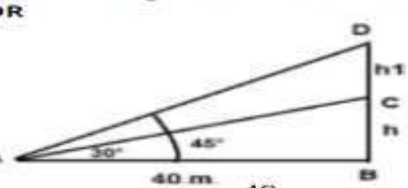
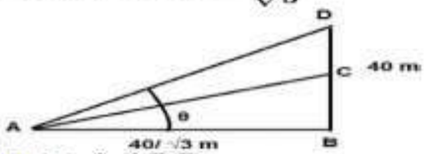
From (v) and (vi) we get,

$\frac{AE}{DE}=\frac{BF}{FC}$

Hence proved

		1
34	Given:- Speed of boat =18 km/hr Distance = 24 km Let x be the speed of stream. Let t_1 and t_2 be the time for upstream and downstream As we know that, $\text{speed} = \frac{\text{distance}}{\text{time}}$ $\Rightarrow \text{time} = \frac{\text{distance}}{\text{speed}}$ For upstream, Speed = (18 - x) km/hr Distance =24 km Time = t_1 Therefore, $t_1 = \frac{24}{18-x}$ For downstream, Speed = (18 + x) km/hr Distance = 24 km Time = t_2 Therefore, $t_2 = \frac{24}{18+x}$ Now according to the question- $t_1 = t_2 + 1$ $\frac{24}{18-x} = \frac{24}{18+x} + 1$ $\Rightarrow \frac{1}{18-x} - \frac{1}{18+x} = \frac{1}{24}$ $\Rightarrow \frac{(18+x)-(18-x)}{(18-x)(18+x)} = \frac{1}{24}$ $\Rightarrow 48x = (18 - x)(18 + x)$ $\Rightarrow 48x = 324 + 18x - 18x - x^2$ $\Rightarrow x^2 + 48x - 324 = 0$ $\Rightarrow x^2 + 54x - 6x - 324 = 0$ $\Rightarrow x(x + 54) - 6(x + 54) = 0$ $\Rightarrow (x + 54)(x - 6) = 0$ $\Rightarrow x = -54$ or $x = 6$ Since speed cannot be negative. $\Rightarrow x \neq -54$ $\therefore x = 6$ Thus the speed of stream is 6 km/hr. Total time of journey = $t_1 + t_2$ $= \frac{24}{18-x} + \frac{24}{18+x}$ $= \frac{24}{12} + \frac{24}{24} = 2 + 1 = 3$ hrs. OR Let average speed of aircraft be x km/h $\frac{600}{x-200} - \frac{600}{x} = \frac{1}{2}$ $x^2 - 200x - 240000 = 0$ $(x - 600)(x + 400) = 0$ $x = 600$ km/h $\therefore$ Original speed = 600 km/h	1 1 1 1 1 2 2 1
35	According to question it is given that Diameter of the base of the cone is = 7cm Therefore radius = $\frac{7}{2}$ = 3.5cm Total height of the toy = 14.5 cm Height of the cone = 15.5 - 3.5 = 12 cm Height of the hemisphere = 3.5 cm According to question it is also given that Volume of the toy = Volume of cone + Volume of hemisphere $= \frac{1}{3}\pi r^2 h + \frac{2}{3}\pi r^2$ ={tex}\frac{1}{3}πr^2(2r+h){/tex} $= \frac{1}{3} \times \frac{22}{7} \times (3.5)^2[2 \times 3.5 + 12]$ $= \frac{1}{3} \times 22 \times 1.75 \times 19$ = 243.83 cm^3 OR Height of the cylinder = 3 m. Total height of the tent above the ground = 13.5 m height of the cone = (13.5 - 3)m = 10.5 m Radius of the cylinder = radius of cone = 14 m Curved surface area of the cylinder = $2\pi rh\,\mathrm{m}^2 = \left(2 \times \frac{22}{7} \times 14 \times 3\right)\mathrm{m}^2 = 264\mathrm{m}^2$ $\therefore \quad l = \sqrt{r^2 + h^2} = \sqrt{14^2 + (10.5)^2} = \sqrt{196 + 110.25} = \sqrt{306.25} = 17.5$ $\therefore$ Cured surface area of the cone = $\pi rl = \left(\frac{22}{7} \times 14 \times 17.5\right)\mathrm{m}^2 = 770\mathrm{m}^2$ Let S be the total area which is to be painted. Then, S = Curved surface area of the cylinder + Curved surface area of the cone $\Rightarrow$ S = (264 + 770) m^2 = 1034 m^2 Hence, Cost of painting = S × Rate = ₹ (1034 × 2) = ₹ 2068	1 1 1 1 1 1 1 1 1 1 1
	SECTION E	
36	i. Number of bricks in the bottom row = 30. in the next row = 29, and so on. Therefore, Number of bricks stacked in each row form a sequence 30, 29, 28, 27, ..., which is an AP with first term, a = 30 and common difference, d = 29 - 30 = -1 Suppose number of rows is n, then sum of number of bricks in n rows should be 360.	

	i.e. $S_n = 360$ $\Rightarrow \frac{n}{2}[2 \times 30 + (n-1)(-1)] = 360 \quad (S_n = \frac{n}{2}(2a + (n-1)d))$ $\Rightarrow 720 = n(60 - n + 1)$ $\Rightarrow 720 = 60n - n^2 + n$ $\Rightarrow n^2 - 61n + 720 = 0$ $\Rightarrow n^2 - 16n - 45n + 720 = 0$ [by factorization] $\Rightarrow n(n-16) - 45(n-16) = 0$ $\Rightarrow (n-16)(n-45) = 0$ $\Rightarrow (n-16) = 0$ or $(n-45) = 0$ $\Rightarrow n = 16$ or $n = 45$ Hence, number of rows is either 45 or 16. n = 45 not possible so n = 16 $a_{45} = 30 + (45-1)(-1) \quad (a_n = a + (n-1)d)$ $= 30 - 44 = -14$ [∵ The number of logs cannot be negative] Hence the number of rows is 16. ii. Number of bricks in the bottom row = 30, in the next row = 29, and so on. Therefore, Number of bricks stacked in each row form a sequence 30, 29, 28, 27,...., which is an AP with first term, a = 30 and common difference, d = 29 - 30 = -1 Suppose number of rows is n, then sum of number of bricks in n rows should be 360. Number of bricks on top row are $n = 16$, $a_{16} = 30 + (16 - 1)(-1)$ $(a_n = a + (n - 1)d)$ = 30 - 15 = 15 Hence, and number of bricks in the top row is 15. ii. Number of bricks in the bottom row = 30, in the next row = 29, and so on. therefore, Number of bricks stacked in each row form a sequence 30, 29, 28, 27, ..., which is an AP with first term, a = 30 and common difference, d = 29 - 30 = -1. Suppose number of rows is n, then sum of number of bricks in n rows should be 360 Number of bricks in 10th row a = 30, d = -1, n = 10 $a_n = a + (n - 1)d$ $\Rightarrow a_{10} = 30 + 9 \times -1$ $\Rightarrow a_{10} = 30 - 9 = 21$ Therefore, number of bricks in 10th row are 21. **OR** Number of bricks in the bottom row = 30, in the next row = 29, and so on. Therefore, Number of bricks stacked in each row form a sequence 30, 29, 28, 27,...., which is an AP with first term, a = 30 and common difference, d = 29 - 30 = -1. Suppose number of rows is n, then sum of number of bricks in n rows should be 360. $a_n = 26$, a = 30, d = -1 $a_n = a + (n - 1)d$ $\Rightarrow 26 = 30 + (n - 1) \times -1$ $\Rightarrow 26 - 30 = -n + 1$ $\Rightarrow n = 5$ Hence 26 bricks are in 5th row.	1 1 1 1 1 1
37	i. The distance between A and C $= \sqrt{(8-4)^2 + (5+3)^2} = \sqrt{4^2 + 8^2}$ $= \sqrt{16 + 64} = \sqrt{80} = 4\sqrt{5}$ units ii. Let the coordinates of I be (x, y) 1 : 2 B(7, 3) I (x, y) C(8, 5) Then, by section formula, $x = \frac{1 \times 8 + 2 \times 7}{1+2} = \frac{8+14}{3} = \frac{22}{3}$ and $y = \frac{1 \times 5 + 2 \times 3}{1+2} = \frac{5+6}{3} = \frac{11}{3}$ Thus, the coordinates of I is $\left(\frac{22}{3}, \frac{11}{3}\right)$ iii. The mid-point of A and C $= \left(\frac{8+4}{2}, \frac{5-3}{2}\right) = (6, 1)$ **OR** Let B divides the line segment joining A and C in the ratio k : 1. Then, the coordinates of B will be $\left(\frac{8k+4}{k+1}, \frac{5k-3}{k+1}\right)$. Thus, we have $\left(\frac{8k+4}{k+1}, \frac{5k-3}{k+1}\right) = (7, 3)$ $\Rightarrow \frac{8k+4}{k+1} = 7$ and $\frac{5k-3}{k+1} = 3$ Consider, $\frac{8k+4}{k+1} = 7 \Rightarrow 8k + 4 = 7k + 7 \Rightarrow k = 3$ Hence, the required ratio is 3 : 1.	1 1 2 2

38	i.  Let BC be the tower of height h and CD be the water tank of height h_1 In ΔABD, we have $\tan 45^\circ = \frac{BD}{AB}$ $\Rightarrow 1 = \frac{h+h_1}{40}$ $\Rightarrow h + h_1 = 40$ ...(1) In ΔABC, we have $\tan 30^\circ = \frac{BC}{AB}$ $\Rightarrow \frac{1}{\sqrt{3}} = \frac{h}{40}$ $\Rightarrow h = \frac{40}{\sqrt{3}} = \frac{40\sqrt{3}}{3}$ = 23.1 m Thus height of the tower is 23.1 m. ii.  Let BC be the tower of height h and CD be the water tank of height h_1 In ΔABD, we have $\tan 45^\circ = \frac{BD}{AB}$ $\Rightarrow 1 = \frac{h+h_1}{40}$ $\Rightarrow h + h_1 = 40$ ...(1) In ΔABC, we have $\tan 30^\circ = \frac{BC}{AB}$ $\Rightarrow \frac{1}{\sqrt{3}} = \frac{h}{40}$ $\Rightarrow h = \frac{40}{\sqrt{3}} = \frac{40\sqrt{3}}{3}$ = 23.1 m Thus height of the tower is 23.1 m. Substituting the value of h in (1), we have $23.1 + h_1 = 40$ $\Rightarrow h_1$ = 40 - 23.1 = 6.9 m Thus height of the tank is 6.9 m. iii.  In the $\triangle ABC$ if $\angle CAB = 45^\circ$ then $\cot 45^\circ = \frac{y}{23.1} = 1$ y = 23.1 m Thus the angle of elevation will be 45° at 23.1 m. **OR**  Given that $AB = \frac{40}{\sqrt{3}}$  In the $\triangle ABD$ $\cot \theta = \frac{AB}{BD} = \frac{\frac{40}{\sqrt{3}}}{40}$ $\cot \theta = \frac{1}{\sqrt{3}}$ $\Rightarrow \theta = 60^\circ$ Hence the angle of elevation would be 60°.	1 1 2 2