1. **(a)** HCF of 960 and 432
Using Euclid's division algorithm:
$960 = 432 \times 2 + 96$
$432 = 96 \times 4 + 48$
$96 = 48 \times 2 + 0$
$\therefore$ HCF $= 48$
2. **(a)** • The natural number 2 is
2 has exactly two factors: 1 and 2 .
• a prime number
3. **(b)** For any natural number n, 6^{11} ends with the digit $6^1 = 6, 6^2 = 36, 6^3 = 216$
The units digit is always 6.
4. **(a)** Number of zeroes of f(x)
The graph does not intersect the x-axis.
Number of zeroes $= 0$
5. **(d)** • If two linear equations are represented by coincident lines
Coincident lines overlap completely, so every point on one line lies on the other.
• an infinite number of solutions
6. **(a)** AP: $\sqrt{2}, 2\sqrt{2}, 3\sqrt{2}, 4\sqrt{2}, ...$
Common difference $= 2\sqrt{2} - \sqrt{2} = \sqrt{2}$
7. **(d)** $\triangle$ ABC $\sim \triangle$ DEF
Given $2AB = DE$, so $\frac{DE}{AB} = 2$.
By similarity,
$$\frac{EF}{BC} = \frac{DE}{AB} = 2$$
$EF = 2 \times 8 = 16$ cm
8. **(a)** Midpoint of (5, -4) and (6, 4)
$$\left(\frac{5+6}{2}, \frac{4+4}{2}\right) = \left(\frac{11}{2}, 0\right)$$
Since $y = 0$, the point lies on the x-axis.
9. **(c)** Given $\sin\theta = \frac{a}{b}$
$$\cos\theta = \sqrt{1 - \sin^2\theta} = \sqrt{1 - \frac{a^2}{b^2}} = \frac{\sqrt{b^2 - a^2}}{b}$$
10. **(b)** If $\cos A = \frac{1}{2}$
$$\cos^2 A = \frac{1}{4}, \sin^2 A = 1 - \frac{1}{4} = \frac{3}{4}$$
$$\sin^2 A + 2\cos^2 A = \frac{3}{7} 2\left(\frac{1}{4}\right) = \frac{3}{4} + \frac{1}{2} = \frac{5}{4}$$
11. **(d)** Height of tower $= 30$ m, distance $= 10\sqrt{3}$ m.
$$\tan\theta = \frac{30}{10\sqrt{3}} = \frac{3}{\sqrt{3}} = \sqrt{3}$$
$\theta = 60^\circ$
12. **(a)** TP and TQ are tangents.
$\angle PTQ = 180^\circ - \angle POQ = 180^\circ - 120^\circ = 60^\circ$
13. **(d)** PA is a tangent, so $OA \perp PA$.
Since A, O, B are collinear, $\angle AOP$ and $\angle POB$ form a linear pair.
$\angle AOP = 180^\circ - 125^\circ = 55^\circ$
In $\triangle$ AOP,
$\angle OAP = 90^\circ$
$\angle APO = 180^\circ - (90^\circ + 55^\circ) = 35^\circ$
14. **(a)** Length of arc

Arc length $= \dfrac{\theta}{360^\circ} \times 2\pi r$

$= \dfrac{60}{360} \times 2\pi \times 21 = \dfrac{1}{6} \times 42\pi = 7\pi$

Using $\pi = \frac{22}{7}$,

$7\pi = 22$ cm

15. (c) Angle swept by hour hand

Time from 7:00 a.m. to 8:10 a.m. = 70 minutes.

Hour hand moves:

$\dfrac{360^\circ}{12 \times 60} = 0.5^\circ$ per minute

$70 \times 0.5^\circ = 35^\circ$

16. (a) Total surface area of a hemisphere

Diameter $= 2d$

$r = d$

$TSA = 3\pi r^2$

$= 3\pi d^2$

17. (c) • Formula: Mode $= 3($ Median $) - 2($ Mean $)$

• Given: Mean=12, Mode=21

• Calculation:

$21 = 3(\text{ Median }) - 2(12)$

$21 = 3(\text{ Median }) - 24$

$3(\text{ Median }) = 21 + 24 = 45$

Median $= \dfrac{45}{3} = 15$

18. (c) • Total outcomes: $\{1,2,3,4,5,6\}(\text{ Total} = 6)$

• Favorable outcomes (number other than 3): $\{1,2,4,5,6\}(\text{ Total} = 5)$

• Probability: Faworable outcomes $= \frac{5}{6}$

19. (c) • Assertion (A) Evaluation: A leap year contains 366 days, which equals 52 weeks and 2 extra days. These 2 extra days can form 7 possible consecutive pairs. Out of these, 2 pairs contain Monday: (Sunday, Monday) and (Monday, Tuesday). Thus, the probability is $\frac{2}{7}$ (True).

• Reason (R) Evaluation: A non-leap year contains 365 days, which equals 52 weeks and 1 extra day. The probability of this extra day being a Monday is $\frac{1}{7}$, not $\frac{5}{7}$ (False).

20. (a) • Assertion (A) Evaluation: The polynomial $p(y) = y^2 + 4y + 3$ is a quadratic equation with a positive discriminant $(D = 4^2 - 4(1)(3) = 4 > 0)$, meaning it has exactly two distinct real zeroes (True).

• Reason (R) Evaluation: By the fundamental theorem of algebra, any quadratic polynomial (degree 2) can have at most two zeroes (True).

• Explanation: Since $p(y)$ is a quadratic polynomial, the general rule given in the Reason explains why it can have two zeroes (Correct Explanation).

So, Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

21. If α, β are the zeroes of $x^2 - 3x - 1$

$\alpha + \beta = 3, \alpha\beta = -1$

$\dfrac{1}{\alpha} + \dfrac{1}{\beta} = \dfrac{\alpha + \beta}{\alpha\beta} = \dfrac{3}{-1} = -3$

22. (A) Given $DE \| BC$.

$\dfrac{AD}{DB} = \dfrac{AE}{EC}$

$\dfrac{x}{x-2} = \dfrac{x+2}{x-1}$

$x(x-1) = (x-2)(x+2)$

$x^2 - x = x^2 - 4$

$x = 4$

OR

(B) $\triangle ABC \sim \triangle XYZ$

Corresponding sides:

$$\frac{YZ}{BC} = \frac{7.2}{6} = 1.2$$

So scale factor $= 1.2$.

$x = XY = AB \times 1.2 = 4 \times 1.2 = 4.8$ cm

$6 = y \times 1.2$

$$y = \frac{6}{1.2} = 5 \text{ cm}$$

23. Centre $= (x - 7, 2x)$

Point $(-9, 11)$ lies on the circle.

Radius $= 5\sqrt{2}$

$(x - 7 + 9)^2 + (2x - 11)^2 = (5\sqrt{2})^2$

$(x + 2)^2 + (2x - 11)^2 = 50$

$x^2 + 4x + 4 + 4x^2 - 44x + 121 = 50$

$5x^2 - 40x + 75 = 0$

$x^2 - 8x + 15 = 0$

$(x - 3)(x - 5) = 0$

24.(A) $\tan\theta = \frac{24}{7}$

Take opposite $= 24$, adjacent $= 7$.

Hypotenuse $= \sqrt{24^2 + 7^2} = 25$

$$\sin\theta = \frac{24}{25}, \cos\theta = \frac{7}{25}$$

$$\sin\theta + \cos\theta = \frac{24 + 7}{25} = \frac{31}{25}$$

OR

(B) $\frac{(1+\sin\theta)(1-\sin\theta)}{(1+\cos\theta)(1-\cos\theta)}$

$$= \frac{1 - \sin^2\theta}{1 - \cos^2\theta} = \frac{\cos^2\theta}{\sin^2\theta} = \cot^2\theta$$

Given

$$\cot\theta = \frac{7}{8}$$

$$\cot^2\theta = \left(\frac{7}{8}\right)^2 = \frac{49}{64}$$

25. Radius of larger circle $R = 5$ cm

Radius of smaller circle $r = 4$ cm

The chord of the larger circle touches the smaller circle, so its distance from the common centre is 4 cm .

Half chord length:

$\sqrt{R^2 - r^2} = \sqrt{25 - 16} = \sqrt{9} = 3$

Chord length

$= 2 \times 3 = 6$ cm

26. Proof by contradiction:

Assume $\sqrt{3}$ is rational.

Then

$$\sqrt{3} = \frac{a}{b}$$

where a and b are coprime integers ($b \neq 0$).

Squaring both sides:

$$3 = \frac{a^2}{b^2}$$

$a^2 = 3b^2$

Thus a^2 is divisible by 3 , so a is divisible by 3 .
Let $a = 3k$.
Substituting:
$(3k)^2 = 3b^2$
$9k^2 = 3b^2$
$b^2 = 3k^2$
Hence b is also divisible by 3 .
Therefore, a and b have a common factor 3 , contradicting that they are coprime.
Hence, $\sqrt{3}$ is irrational.

27. Ratio in which the x-axis divides the line segment joining $(-6,5)$ and $(-4,-1)$ Let $P(-6,5)$ and $Q(-4,-1)$.
Suppose the x -axis divides PQ in the ratio $m:n$.
Since the point lies on the x -axis, its y -coordinate is 0 .
Using section formula:
$$0 = \frac{m(-1) + n(5)}{m + n}$$
$-m + 5n = 0$
$m = 5n$
Therefore,
$m:n = 5:1$
Point of intersection:
$$x = \frac{5(-4) + 1(-6)}{5 + 1} = \frac{-20 - 6}{6} = -\frac{13}{3}$$
So the point is
$$\left(-\frac{13}{3}, 0\right)$$

28. **(A)** Given
$x = h + a\cos\theta, y = k + b\sin\theta$
Then
$$\frac{x - h}{a} = \cos\theta$$
and
$$\frac{y - k}{b} = \sin\theta$$
Squaring and adding:
$$\left(\frac{x - h}{a}\right)^2 + \left(\frac{y - k}{b}\right)^2 = \cos^2\theta + \sin^2\theta$$
$= 1$
Hence proved:
$$\left(\frac{x - h}{a}\right)^2 + \left(\frac{y - k}{b}\right)^2 = 1$$
OR

(B) Prove:
$$\frac{\tan A}{1 + \sec A} - \frac{\tan A}{1 - \sec A} = 2\operatorname{cosec} A$$
LHS
$$= \tan A\left(\frac{1}{1 + \sec A} - \frac{1}{1 - \sec A}\right)$$
$$= \tan A\left(\frac{(1 - \sec A) - (1 + \sec A)}{(1 + \sec A)(1 - \sec A)}\right)$$
$$= \tan A\left(\frac{-2\sec A}{1 - \sec^2 A}\right)$$
Using $1 - \sec^2 A = -\tan^2 A$.
$$= \tan A\left(\frac{2\sec A}{\tan^2 A}\right)$$

$= \frac{2\sec A}{\tan A}$

$= 2 \cdot \frac{1/\cos A}{\sin A/\cos A}$

$= \frac{2}{\sin A}$

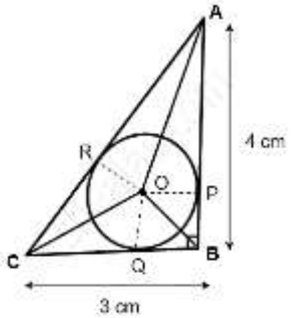
$= 2\operatorname{cosec} A$

Hence,

$\frac{\tan A}{1+\sec A} - \frac{\tan A}{1-\sec A} = 2\operatorname{cosec} A$

Hence proved.

29. (A)



In the right-angled △ ABC, use the Pythagoras theorem to find the length of side AC :

$AC^2 = AB^2 + BC^2$

$AC^2 = 4^2 + 3^2$

$AC^2 = 16 + 9$

$AC = \sqrt{25}$

$= 5$ cm

For a right-angled triangle, the radius r of the inscribed circle is given by:

$r = \frac{AB + BC - AC}{2}$

$= \frac{4+3-5}{2}$

$= \frac{7-5}{2}$

$= \frac{2}{2}$

$= 1$ cm

Area of a triangle $= \frac{1}{2} \times$ base $\times$ height

$= \frac{1}{2} \times 3 \times 4$

$= \frac{12}{2}$

$= 6$ cm

OR

(B) Given: PM, PN, QR are tangents.

Length of tangent from external point to a circle is equal:

$PM = PN$ …(i)

$QM = QS$ ….(ii)

$RN = RS$ ….(iii)

The perimeter of the triangle is the sum of its three sides:

Perimeter $= PQ + QR + PR$

Since the point S lies on QR ,

$QR = QS + SR$ ….(iv)

The point S lies on Q, PM,

$PM = PQ + QM$ …(v)

The point S lies on R, PN,

$PN = PR + RN$ ....(vi)

$RHS = \frac{1}{2}[PQ + QR + PR]$

$= \frac{1}{2}[PQ + QS + SR + PR]$ ....[using eq. (iv)]

$= \frac{1}{2}[PQ + QM + RN + PR]$ ...[using eq. (ii) and (iii)]

$= \frac{1}{2}[PM + PN]$ ....[using eq. (v) and (vi)]

$= \frac{1}{2}[PM + PM]$ ....[using eq. (i)]

$= \frac{1}{2} \times 2PM$

$= PM$

$= LHS$

Hence proved.

30. Volume of a cylinder with hemispherical ends

Diameter $= 7$ cm

$r = \frac{7}{2} = 3.5$ cm

Total height $= 20$ cm

Cylinder height

$h = 20 - 2r = 20 - 7 = 13$ cm

Volume

$V = \pi r^2 h + \frac{4}{3}\pi r^3$

Using $\pi = \frac{22}{7}$.

$V = \frac{22}{7} \times (3.5)^2 \times 13 + \frac{4}{3} \times \frac{22}{7} \times (3.5)^3$

$= 500.5 + \frac{539}{3}$

$= 680.17\ cm^3$ (approx)

31. Two dice of different colours

Sample Space

$S = \{(1,1), (1,2), (1,3), (1,4), (1,5), (1,6),$
$(2,1), (2,2), (2,3), (2,4), (2,5), (2,6),$
$(3,1), (3,2), (3,3), (3,4), (3,5), (3,6),$
$(4,1), (4,2), (4,3), (4,4), (4,5), (4,6),$
$(5,1), (5,2), (5,3), (5,4), (5,5), (5,6),$
$(6,1), (6,2), (6,3), (6,4), (6,5), (6,6)\}$

Total outcomes $= 36$.

(i) Same number on both dice

Favourable outcomes:

$(1,1), (2,2), (3,3), (4,4), (5,5), (6,6)$

Number of favourable outcomes $= 6$.

$P = \frac{6}{36} = \frac{1}{6}$

Answer: $\frac{1}{6}$

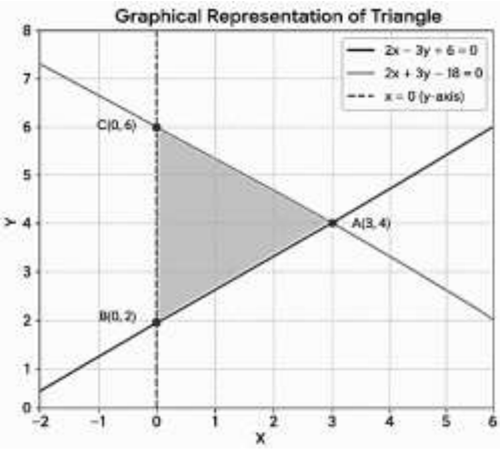
(ii) Different numbers on both dice

Favourable outcomes:

$36 - 6 = 30$

$P = \frac{30}{36} = \frac{5}{6}$

32.



(1) Graphing the Lines

Line 1: $2x-3y+6=0 \Longrightarrow y=\frac{2}{3}x+2$

When $x=0, y=2 \rightarrow (0,2)$

When $y=0, x=-3 \rightarrow (-3,0)$

Line 2: $2x+3y-18=0 \Longrightarrow y=-\frac{2}{3}x+6$

When $x=0, y=6 \rightarrow (0,6)$

When $y=0, x=9 \rightarrow (9,0)$

Line 3: $x=0$ (The y-axis)

(2) Finding the Vertices

By finding the mutual intersection points of the lines:

Intersection of Line 1 and Line 2 gives vertex $A(3,4)$.

Intersection of Line 1 and the y-axis ($x=0$) gives vertex $B(0,2)$.

Intersection of Line 2 and the y-axis ($x=0$) gives vertex $C(0,6)$.

(3) Calculating the Area

Base (along y-axis): Length from $y=2$ to $y=6 \Longrightarrow 6-2=4$ units

Height: The x-coordinate of vertex $A \Longrightarrow 3$ units

$$\text{Area } =\frac{1}{2}\times \text{ Base} \times \text{Height } =\frac{1}{2}\times 4\times 3=6 \text{ sq. units}$$

33. **(A)** Let the speed of the faster train be v km/h.

• The speed of the slower train is $(v-10)$km/h.

$$\frac{200}{v-10}-\frac{200}{v}=1$$

$$200\left(\frac{v-(v-10)}{v(v-10)}\right)=1 \Longrightarrow 2000=v^2-10v$$

$v^2-10v-2000=0 \Longrightarrow (v-50)(v+40)=0$

• Since speed cannot be negative, $v=50$ km/h.

OR

(B) Let the sides of the two squares be a and b (where $a>b$).

• Sum of areas: $a^2+b^2=640$

• Difference in perimeters: $4a-4b=64 \Longrightarrow a-b=16 \Longrightarrow a=b+16$

• Substitute a into the area equation:

$(b+16)^2+b^2=640 \Longrightarrow 2b^2+32b+256=640$

$2b^2+32b-384=0 \Longrightarrow b^2+16b-192=0 \Longrightarrow (b+24)(b-8)=0$

• Since a side length cannot be negative, $b=8$ m.

• Then, $a=8+16=24$ m.

34. **(A)** Basic Proportionality Theorem

• Statement: If a line is drawn parallel to one side of a triangle intersecting the other two sides in distinct points, then the other two sides are divided in the same ratio.

• Proof:

(1) Consider $\triangle ABC$ where $DE \| BC$. Join BE and CD. Draw perpendiculars $EN \perp AB$ and $DM \perp AC$.

(2) Area$(\triangle ADE)=\frac{1}{2}\times AD\times EN$ and

$\text{Area}(\triangle \text{BDE}) = \frac{1}{2} \times \text{BD} \times \text{EN} \Longrightarrow \frac{\text{Arca}(\triangle \text{ADE})}{\text{Arca}(\triangle \text{BDE})} = \frac{\text{AD}}{\text{BD}}$

(3) Similarly, $\frac{\text{Arca}(\triangle \text{ADE})}{\text{Arca}(\triangle \text{CDE})} = \frac{\text{AE}}{\text{EC}}$

(4) Since $\triangle$ BDE and $\triangle$ CDE lie on the same base DE and between the same parallel lines DE$\|$BC, Area($\triangle$ BDE) $=$ Area($\triangle$ CDE).

(5) Therefore, $\frac{\text{AD}}{\text{BD}} = \frac{\text{AE}}{\text{EC}}$ (Hence Proved).

OR

(B) Given $\triangle \text{ABC} \sim \triangle \text{PQR}$, we know $\angle A = \angle P, \angle B = \angle Q$ and $\frac{AB}{PQ} = \frac{BC}{QR} = \frac{AC}{PR}$.

Since CM and RN are medians, $AB = 2AM = 2MB$ and $PQ = 2PN = 2NQ$.

(i) Prove $\triangle \text{AMC} \sim \triangle \text{PNR}$:

From $\frac{AB}{PQ} = \frac{AC}{PR} \Longrightarrow \frac{2AM}{2PN} = \frac{AC}{PR} \Longrightarrow \frac{AM}{PN} = \frac{AC}{PR}$.

Since $\angle A = \angle P$, by SAS similarity, $\triangle \text{AMC} \sim \triangle \text{PNR}$.

(ii) Prove $\triangle \text{CMB} \sim \triangle \text{RNQ}$:

From $\frac{AB}{PQ} = \frac{BC}{QR} \Longrightarrow \frac{2MB}{2NQ} = \frac{BC}{QR} \Longrightarrow \frac{MB}{NQ} = \frac{BC}{QR}$.

Since $\angle B = \angle Q$, by SAS similarity, $\triangle \text{CMB} \sim \triangle \text{RNQ}$.

35. (1) Using Sum of Frequencies

$\sum f_i = 1 + x + 5 + 7 + y + 3 + 1 = 25$

$17 + x + y = 25 \Longrightarrow x + y = 8 \Longrightarrow y = 8 - x$ ....(i)

(2) Using Mean Formula

Find class marks (x_i) and multiply by frequency (f_i) :

- 0-10: $f_i x_i = 1 \times 5 = 5$
- 10-20: $f_i x_i = x \times 15 = 15x$
- 20-30: $f_i x_i = 5 \times 25 = 125$
- $30 - 40$: $f_i x_i = 7 \times 35 = 245$
- 40-50: $f_i x_i = y \times 45 = 45y$
- $50 - 60$: $f_i x_i = 3 \times 55 = 165$
- $60 - 70$: $f_i x_i = 1 \times 65 = 65$

$\sum f_i x_i = 605 + 15x + 45y$

$\text{Mean} = \frac{\sum f_i x_i}{\sum f_i} \Longrightarrow 35 = \frac{605 + 15x + 45y}{25}$

$875 = 605 + 15x + 45y \Longrightarrow 15x + 45y = 270$

Divide by 15:

$x + 3y = 18$ ....(ii)

(3) Solving Equations

Substitute Equation (i) into Equation (ii) :

$x + 3(8 - x) = 18 \Longrightarrow x + 24 - 3x = 18$

$-2x = -6 \Longrightarrow x = 3$

$y = 8 - 3 \Longrightarrow y = 5$

36. **(i)** Distance covered for the first potato

D Distance from the bucket to the 1 st potato $= 5$ m

- The competitor runs to the potato and returns to the bucket.
- Distance covered $= 2 \times 5$ m $= 10$ m

(ii) Distance covered for the second potato

- Distance from the bucket to the 2 nd potato $= 5$ m $+ 3$ m $= 8$ m
- The competitor runs to the potato and returns to the bucket.
- Distance covered $= 2 \times 8$ m $= 16$ m

(iii) (A) Total distance the competitor has to run

The distances covered for each potato form an Arithmetic Progression (AP):

$10, 16, 22, 28, \ldots$

- First term (a) $= 10$
- Common difference (d) $= 16 - 10 = 6$

• Number of terms $(n)=10$ (since there are 10 potatoes)

Using the sum formula for an AP $\left(S_n=\frac{n}{2}[2a+(n-1)d]\right)$:

$$S_{10}=\frac{10}{2}[2(10)+(10-1)6]$$
$$S_{10}=5[20+9\times 6]$$
$$S_{10}=5[20+54]=5\times 74=370\text{m}$$

OR

(B) Average time taken

• Total distance covered $=370$ m

• Average speed $=5$ m/s

Using the formula Time $=\frac{\text{Distance}}{\text{Spood}}$:

$$\text{Time }=\frac{370}{5}=74\text{ seconds}$$

37. Given

• Distance from the base of the tower (P) to point O: $PO=6$ m

• Angle of elevation to the top of section B: $\angle POB=30^\circ$

• Angle of elevation to the top of section A: $\angle POA=60^\circ$

(i) In right-angled triangle $\triangle OPB$:

$$\cos(30^\circ)=\frac{\text{Base}}{\text{Hypotenuse}}=\frac{PO}{OB}$$
$$\frac{\sqrt{3}}{2}=\frac{6}{OB}$$
$$OB=\frac{12}{\sqrt{3}}=4\sqrt{3}\text{ m}\approx 6.93\text{ m}$$

(ii) In right-angled triangle $\triangle OPA$:

$$\cos(60^\circ)=\frac{\text{Base}}{\text{Hypotenuse}}=\frac{PO}{OA}$$
$$\frac{1}{2}=\frac{6}{OA}$$
$$OA=12\text{ m}$$

(iii) (A) First, find PA using $\triangle OPA$:

$$\tan(60^\circ)=\frac{PA}{PO}\Rightarrow\sqrt{3}=\frac{PA}{6}\Rightarrow PA=6\sqrt{3}\text{ m}$$

Next, find PB using $\triangle OPB$:

$$\tan(30^\circ)=\frac{PB}{PO}\Rightarrow\frac{1}{\sqrt{3}}=\frac{PB}{6}\Rightarrow PB=\frac{6}{\sqrt{3}}=2\sqrt{3}\text{ m}$$

Now, calculate AB :

$$AB=PA-PB=6\sqrt{3}-2\sqrt{3}=4\sqrt{3}\text{ m}\approx 6.93\text{ m}$$

OR

(B) Find the area of $\triangle OPB$:

$$\text{Area }=\frac{1}{2}\times\text{ base}\times\text{height }=\frac{1}{2}\times PO\times PB$$
$$\text{Area }=\frac{1}{2}\times 6\times 2\sqrt{3}=6\sqrt{3}\text{ m}^2\approx 10.39\text{ m}^2$$

38. Given: $d=35$ cm

(i) The radius is half of the diameter (d).

$$r=\frac{d}{2}$$
$$=\frac{35}{2}$$
$$=17.5\text{ cm}$$

(ii) The circumference (C) of brooch $=\pi d$ ... $\left(\text{Taking }\pi=\frac{22}{7}\right)$

$= \frac{22}{7} \times 35$
$= 22 \times 5$
$= 110$ cm
(iii) (A) The wire is used for the outer circumference plus the 5 internal diameters.
Total length $= 110 + (5 \times 35)$
$= 110 + 175$
$= 285$ cm

OR

(B) The circle is divided into 10 equal sectors.

$$\text{Area of 1 sector} = \frac{\text{Total area of circle}}{10}$$

Total area of square $= \pi r^2$
$= \frac{22}{7} \times 17.5 \times 17.5$
$= \frac{22}{7} \times 306.25$
$= 22 \times 43.75$
$= 962.5 \text{ cm}^2$
Now, divide by 10 for one sector:
Area of each sector $= \frac{962.5}{10}$
$= 96.25 \text{ cm}^2$