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## MATHS

## BOOKS - KC SINHA MATHS (HINGLISH)

## ANGLES AND THEIR MEASURES - FOR <br> BOARDS

Solved Examples

1. Find the degree measure corresponding to
the following radian measures: $\left(\frac{\pi}{6}\right)^{c}$
2. Find the degree measure corresponding to
the following radian measures: $\left(\frac{4 \pi}{5}\right)^{c}$

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3. Find the degree measure corresponding to
the following radian measures: $(1.2)^{c}$
4. Express $45^{0} 20^{\prime} 10^{\prime \prime}$ in radian measure $(\pi=3.1415)$

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5. The angles of a triangle are in the ratio 3:4:5. Find the smallest angle in degrees and the greatest angle in radians.

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6. Find the angle between the hour-hand and
the minute-hand in circular measure at half past 4

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7. The angles in a triangle are in A.P. and the ratio of the smallest angle in degrees to the greatest angle in radians is $60: \pi$ Find the angle of the triangle in degrees and radians.
8. Find the radius of the circle in which a central angle of $45^{0}$ intercepts an arc 132 cm
(Use $\pi=\frac{22}{7}$ )

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9. Find the length of an arc of a circle of radius

10 cm subtending an angle of $30^{0}$ at the centre
10. The minute hand a watch is 35 cm long.

How for does its tip move in 18minutes?
$\left(u s e \pi=\frac{22}{7}\right)$

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11. Assuming the distance of the earth from
the moon to be $38,400 \mathrm{~km}$ and the angle subtended by the moon at the eye of a person on the earth to be 31, find the diameter of the moon.
12. The wheel of a railway carriage is 40 cm in diameter and makes 6 revolutions in a second, how fast is the train going?

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13. Assuming that a person of normal sight
can red print to such distance that the letters
subtend and angle of 5 at his eye, find is the
height of the letters that he can read at a distance of 12 metres.

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## Exercise

1. Find the degree measures corresponding to
the radian measures: $\left(\frac{4 \pi}{3}\right)^{c}$
2. Find the degree measures corresponding to
the radian measures: $\left(7 \frac{\pi}{6}\right)^{c}$

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3. Find the degree measures corresponding to
the radian measures: $\left(5 \frac{\pi}{3}\right)^{c}$

## D Watch Video Solution

4. Find the degree measures corresponding to
the radian measures: $\left(\frac{-5 \pi}{24}\right)^{c}$

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5. Find the degree measures corresponding to
the radian measures: $\left(-2 \frac{\pi}{3}\right)^{c}$
6. Find the degree measures corresponding to
the radian measures: $\left(33 \frac{\pi}{320}\right)^{c}$

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7. Find the degree measures corresponding to
the radian measures: $6^{c}$

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8. Find the degree measures corresponding to
the radian measures: $(-4)^{c}$

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9. Find the degree measures corresponding to
the radian measures: $\left(\frac{11}{16}\right)^{c}$

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10. Find the degree measures corresponding to the radian measures: $(2.64)^{c}$

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11. Express the angles in radian measure: $105^{0}$

## D Watch Video Solution

12. Express the angles in radian measure $25^{0}$
13. Express the angles in radian measure: $240^{\circ}$

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14. Express the angles in radian measure: $-56^{0}$

## D Watch Video Solution

15. Express the angles in radian measure: $520^{\circ}$
16. Express the angles in radian measure: $7^{0} 30^{\prime}$

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17. Express the angles in radian measure: $4^{0} 20^{\prime}$

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18. Express the angles in radian measure:
$42^{0} 57^{\prime} 16^{\prime \prime}$

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19. Express the angles in radian measure:
$-47^{0} 30^{\prime}$

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20. Two angle of a triangle are
$72^{0} 53^{\prime} 51^{\prime}$ and $41^{0} 22^{\prime} 50^{\prime \prime}$ respectively. Find the third angle in radions.
21. Find the angle between the hour-hand and the minute-hand in circular measure at $4 O^{\prime}$ clock

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22. The angle of traingle are in A.P. and the number of degrees in the least is to the number of radians in the greatest is $36: \pi$, find the angles in degrees.
23. Find the degree measure of the angle subtended at the centre of a circle of radius

100 cm by an are of length 22 cm
$\left(u s e \pi=\frac{22}{7}\right)$

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24. Find the radius of the circle in which a central angle of $45^{\circ}$ makes an arc of 187 cm
$\left(u s e \pi=\frac{22}{7}\right)$

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25. Find the radius of the circle in which a central angle of $60^{\circ}$ intercepts an arc of length $37.4 \mathrm{~cm}\left(u s e \pi=\frac{22}{7}\right)$

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26. In a circle of diameter 40 cm the length of a chord is 20 cm Find the length of the minor arc

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27. At what distance does a man $5 \frac{1}{2} \mathrm{ft}$. in height, subtend an angle of 15 " ?

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28. In two circles, arcs of equal length subtend angles of $60^{\circ}$ and $75^{\circ}$ at their centres, show that their radii are in the ratio $5: 4$
29. If the arcs of same length in two circles subtend angles of $75^{0}$ and $120^{\circ}$ at their respective centres, find the ratio of their radii.

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30. If arcs of the same lengths in two circles
subtend angles of $65^{0}$ and $110^{\circ}$ at the centre,
find the ratio of their radii.
31. Find the angle in radian through which a pendulum swings if its length is 75 cm and the tip describes an arc of length: 10 cm

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32. Find the angle in radian through which a pendulum swings if its length is 75 cm and the tip describes an arc of length: 21 cm
33. Find the angle in radian through which a pendulum swings if its length is 75 cm and the tip describes an arc of length: $15 \mathrm{~cm}\left(u \operatorname{se} \pi=\frac{22}{7}\right)$

## D Watch Video Solution

34. The minute hand of a watch is 1.5 cm long.

How far does its tip move in 50 minutes.

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35. The minute hand of watch is 1.5 cm long.

How far does its tip move in 40 minutes?

## D Watch Video Solution

36. A wheel makes 30 revolutions per minute.

Find the radian measure of the angle described by one of the spokes of the wheel in $\frac{1}{2}$ second

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37. A wheel makes 360 revolutions in one minute. Through how many radians does it turn in one second?

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38. Assuming the average distance of the earth from the sun to be 149700000 km and the angle subtended by the sun at the eye of a person on the earth to be 32 ', find the sun's diameter.
39. A truck is travelling on a circular road of radius 1500 metres at $66 \mathrm{~km} / \mathrm{hr}$. Through what angle (in radians) does it turn in 10 second?

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40. If the angular diameter of the moon be 30 ,
how far from the eye a coin of diameter
2.2 cm be kept to hide the moon?

