Measurement Of Angles

Exercise 14

Q. 1. A. Using a protractor, draw each of the following angles.

60°

Answer :



• Place the centre of the protractor at B and the baseline of the protractor along the arm BA.

- Find 60° on the scale and mark a small dot at the edge of the protractor.
- Join the vertex B to the small dot with a ruler to form the second arm, BC, of the angle.
- Mark the angle with a small arc as shown below.

Q. 1. B. Using a protractor, draw each of the following angles.

130°

Answer :



- Find 320° mark the scale and
- Join the vertex B to the small dot with a ruler to form the second arm, BC, of the angle.
- Mark the angle with a small arc as shown below.



Angle in seconds = $0.632 \times 60^{\prime\prime} = 37.92^{\prime\prime}$

Final angle = $47^{\circ} 43' 38''$

(iv) Formula : Angle in degrees = $\frac{\text{Angle in radians} \times \frac{180}{\pi}}{\pi}$

The angle in minutes = Decimal of angle in radian x 60.

The angle in seconds = Decimal of angle in minutes x 60."

 $-4 \times \frac{180}{\pi} = -\frac{720}{22/7} = -229.0909^{\circ}$ Therefore, Angle in degrees =

Angle in minutes = $0.0909 \times 60' = 5.4545'$

Angle in seconds = $0.4545 \times 60^{\prime\prime} = 27.27^{\prime\prime}$

Final angle = $-229^{\circ} 5' 27''$

Notesale.co.uk Q. 4. The angles of a triangle are in AP, and the greatest ingle is double the least. Find all the angles in degrees and radians.

Answer: Luca d, a, a + d to Pett ree angles of the triangle that form AP. Given that the greatest angle is double the least. Now, a + d = 2(a - d) 2a - 2d = a + da= 3d (1)Now by angle sum property, $(a - d) + a + (a + d) = 180^{\circ}3a = 180^{\circ}a = 60^{\circ}$ (2) From (1) and (2), $3d = 60^{\circ}d = 20^{\circ}Now$, the angles are, $a - d = 60^{\circ} - 20^{\circ} = 40^{\circ}a =$ $60^{\circ}a + d = 60^{\circ} + 20^{\circ} = 80^{\circ}.$

Therefore the required angles are 40° 60° 80°

Q. 5. The difference between the two acute angles of a right triangle is

Answer : The angle in degree =
$$\frac{\pi}{5} \times \frac{180}{\pi} = 36^{\circ}$$

 $= 36^{\circ}$

Let, two acute angles are x and y

So,