

Mixed Review Exercises

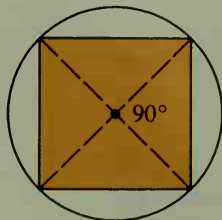
Complete.

1. In $\odot O$, if the measure of central angle AOB is 52, then the measure of arc AB is $\underline{\quad? \quad}$.
2. In $\odot P$, if the measure of inscribed angle RST is 73, then the measure of arc RT is $\underline{\quad? \quad}$.
3. The measure of each interior angle of a regular octagon is $\underline{\quad? \quad}$.
4. If the measure of each exterior angle of a regular polygon is 20, then the polygon has $\underline{\quad? \quad}$ sides.
5. In a $45^\circ\text{-}45^\circ\text{-}90^\circ$ triangle with legs 20 cm long, the length of the altitude to the hypotenuse is $\underline{\quad? \quad}$.
6. In a $30^\circ\text{-}60^\circ\text{-}90^\circ$ triangle with hypotenuse 30 cm long, the lengths of the legs are $\underline{\quad? \quad}$ and $\underline{\quad? \quad}$.
7. In an isosceles triangle with vertex angle of 60° and legs 10 m long, the length of the base is $\underline{\quad? \quad}$.
8. In $\triangle ABC$ if $m\angle C = 90$, $AC = 8$, and $AB = 17$, then $\cos B = \underline{\quad? \quad}$.

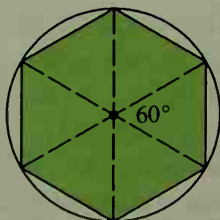
11-4 Areas of Regular Polygons

The beautifully symmetrical designs of kaleidoscopes are produced by mirrors that reflect light through loose particles of colored glass. Since the body of a kaleidoscope is a tube, the designs always appear to be inscribed in a circle. The photograph of a kaleidoscope pattern at the right suggests a regular hexagon.

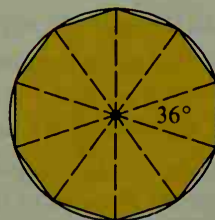
Given any circle, you can inscribe in it a regular polygon of any number of sides. The diagrams below show how this can be done.



Square in circle:
draw four 90° central
angles.



Regular hexagon in
circle: draw six 60°
central angles.



Regular decagon in
circle: draw ten
 36° central angles.