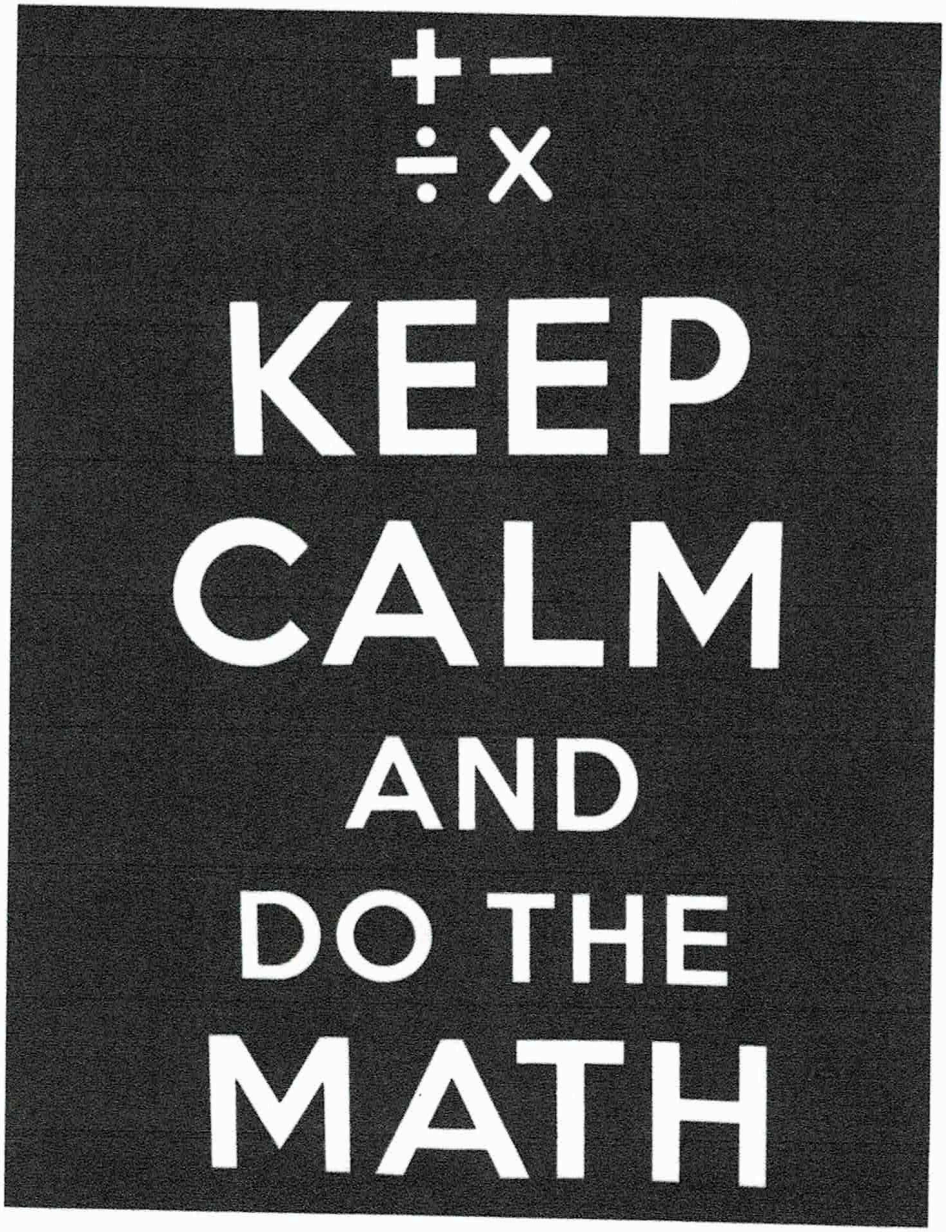
NOMBRE: _____

P.A.T Prep

Circle Geometry



St. Brendan School

Mr. Martínez

Circle Geometry

- Every P.A.T.
  - ↳ ✓ Inscribed / central angle problem
  - ↳ ✓ Problem involving a chord

Inscribed / Central angle

Must come from same minor arch.

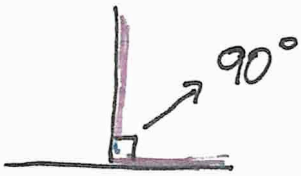
- Remember:

→ 360°

→ 180°

Also:

- Isosceles triangles → 2 equal sides → 2 equal angles

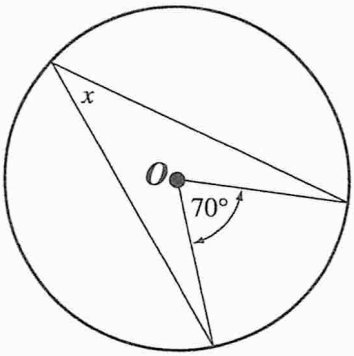


- Equilateral triangles → 3 equal sides → 3 equal angles

Strategy tip:

- The Radius is always involved, and you most likely will have an Isosceles triangle by 2-radii

✓



- Central angle is bigger

Numerical Response

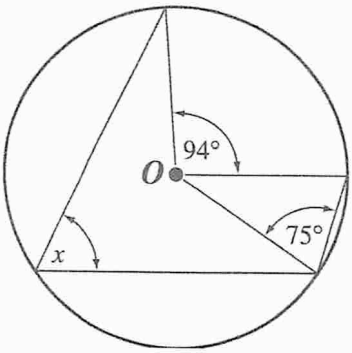
✓

5. If O is the centre of the circle, the measure of x is _____ °.

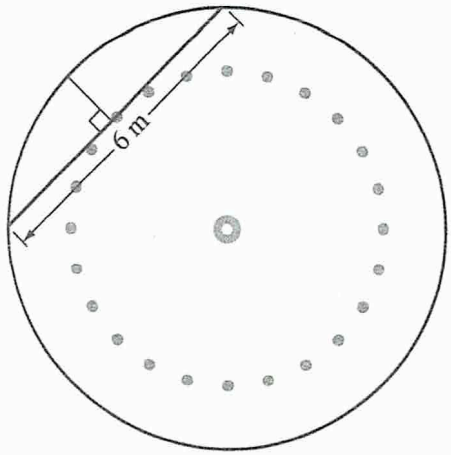
Point O in the diagram below represents the centre of the circle. umerical-response section on the answer sheet.)

27. The value of angle x is

A. 47°
B. 62°
C. 75°
D. 90°



A diagram of a swimming pool is shown below. The dotted circle represents floating buoys. The pool has a diameter of 10 metres.



6. The shortest distance from the buoys to the edge of the pool is

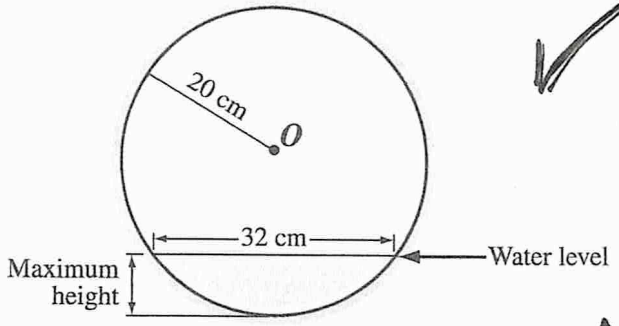
A. 1 m

B. 2 m

C. 3 m

D. 4 m

The diagram below shows a circular pipe that has O as its centre. The radius of the pipe is 20 cm.



Numerical Response

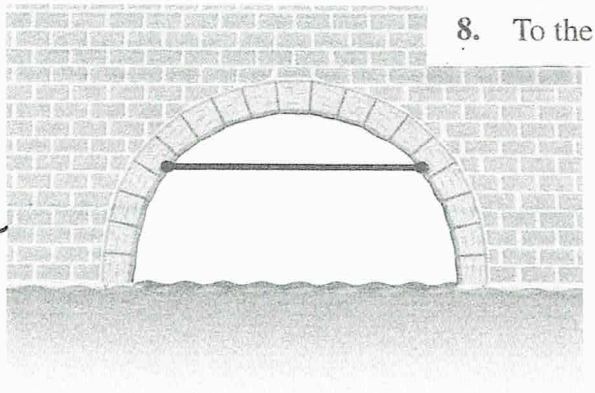
2. The maximum depth of the water in the pipe is _____ cm.

(Record your answer in the numerical response section on the answer sheet.)

The arch in the diagram below forms a complete half-circle. The black support beam in the diagram is 3.6 m in length and is 3.0 m above the surface of the water.

Since you have to find the diameter

- Draw a bisector
- Draw the triangle



8. To the nearest tenth of a metre, the diameter of the arch is

A. 3.5 m

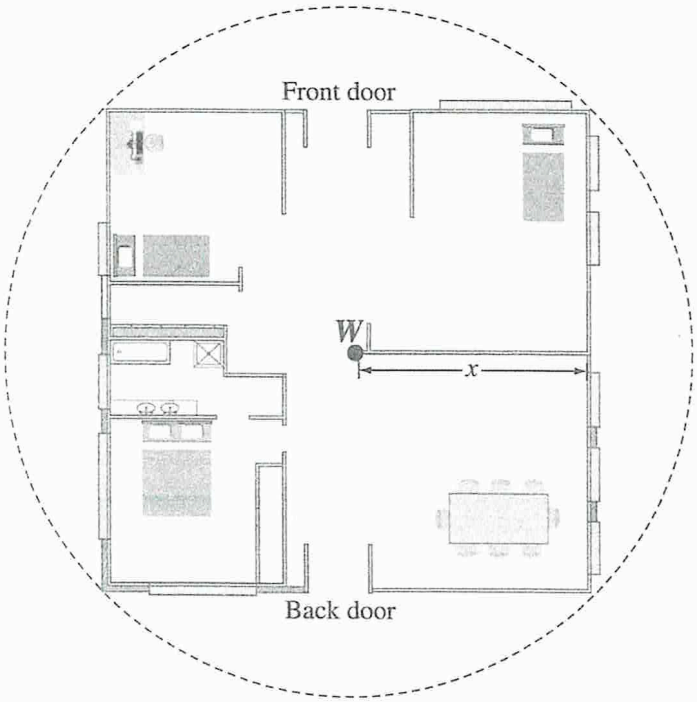
B. 4.7 m

C. 7.0 m

D. 9.4 m

Note: The diagram shown above has **not** been drawn to scale.

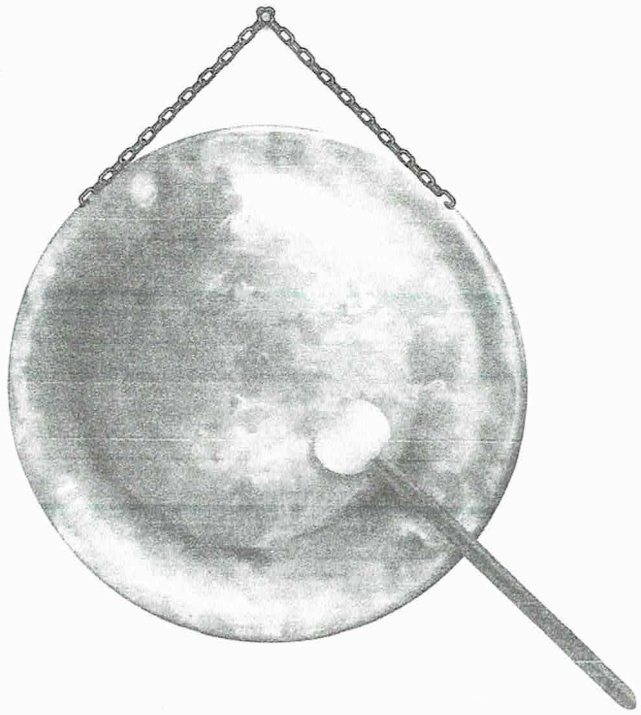
The letter W is in the centre of the diagram below and represents the location of a wireless router for Internet access in a square house. The router provides access to the area represented by the dotted circle in the diagram below. This circular area has a diameter of 20 m.



11. To the nearest tenth of a metre, the distance, x, from the router, W, to the middle of one outside wall is

A. 7.1 m
B. 8.9 m
C. 10.0 m
D. 14.1 m

The gong shown below is 30 cm in diameter and hangs by a chain from a nail. The total length of the chain is 18 cm. The lengths of chain on each side of the nail are equal to each other and form a tangent to the gong.



10. How far above the top of the gong is the nail, to the nearest tenth of a centimetre?

A. 2.3 cm
B. 2.5 cm
C. 12.0 cm
D. 17.5 cm

CHORDS in a Circle

• Safe bet: You'll get one PROBLEM involving CHORDS

So, follow this:

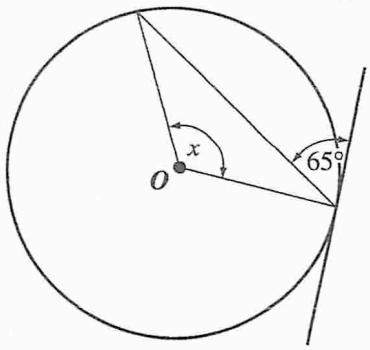
1.) Determine the Radius

2) Draw a Radius from center to edge of CHORD. this will be your hypotenuse!

3) ask yourself: • which 2 measurements do I have?
• What you need to find has to do with the one length you do not have!

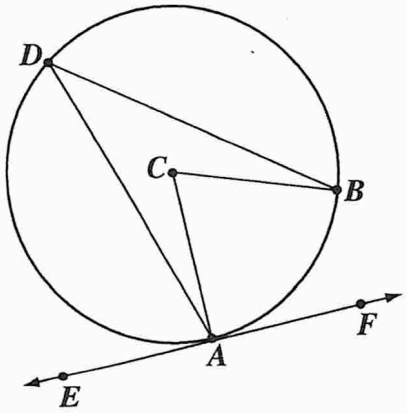
26. If the line shown above is a tangent to the circle, then the measure of angle x is

A. 110°
B. 115°
C. 130°
D. 155°



Point of Tangency
↳ always 90°

Note: The diagram shown above has **not** been drawn to scale. The letter O represents the centre of the circle.

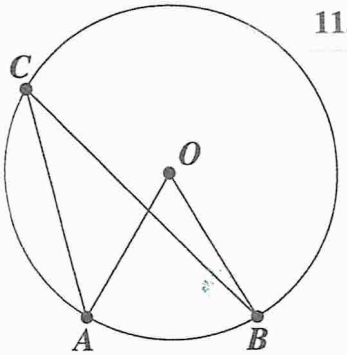


In this diagram, point C represents the centre of the circle.

2. Which of the following rows of terms correctly labels the parts of the diagram above?

Row	$\angle ADB$	$\overline{AD}$	$\angle ACB$	$\overleftrightarrow{EF}$
A.	Inscribed angle	Tangent line	Central angle	Chord
B.	Inscribed angle	Chord	Central angle	Tangent line
C.	Central angle	Tangent line	Inscribed angle	Chord
D.	Central angle	Chord	Inscribed angle	Tangent line

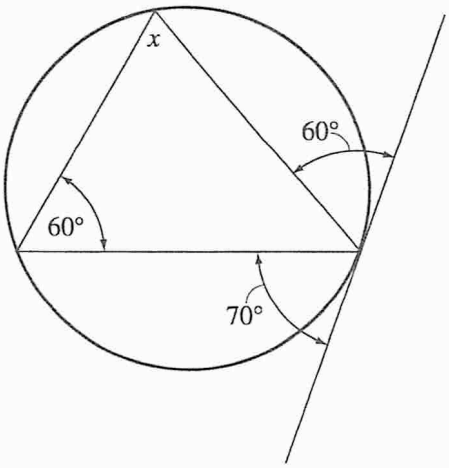
The letter O in the diagram below represents the centre of the circle.



Note: The diagram shown above has **not** been drawn to scale.

11. If the sum of $\angle AOB$ and $\angle ACB$ is 75°, then $\angle ACB$ equals

A. 30°
B. 25°
C. 20°
D. 15°



38. The measure of x in the diagram above is

A. 50°
B. 60°
C. 65°
D. 70°