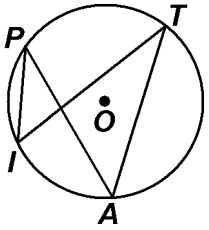
Name: _____

CC Geometry Homework

## Inscribed Angles

1) The accompanying diagram shows circle $O$ with chords $\overline{PI}$, $\overline{PA}$, $\overline{IT}$, and $\overline{AT}$ drawn.




Which one of the following describes the relationship between angle *PIT* and angle *PAT*?

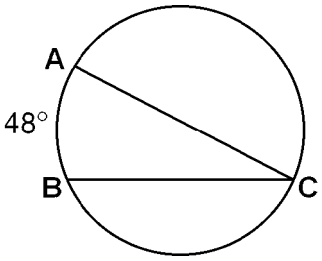
A) The measure of angle *PIT* is equal to half of the measure of angle *PAT*.

B) The measure of angle *PIT* is equal to twice the measure of angle *PAT*.

C) The measure of angle *PIT* is equal to the measure of angle *PAT*.

D) Angle *PIT* and angle *PAT* are complementary angles.

2) In the accompanying diagram, the measure of $\overset{\frown}{AB}$ is $48°$.

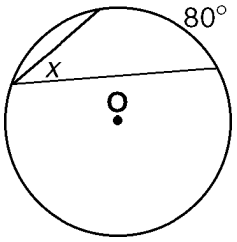



What is the measure of inscribed $\angle ACB$? [*Show all work*.]

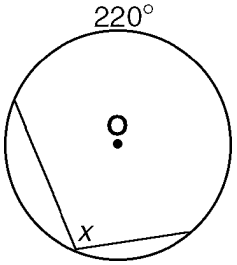
Questions 3 through 5 refer to the following:

For the given circle, find the value of $x$. [*Show all work*.]

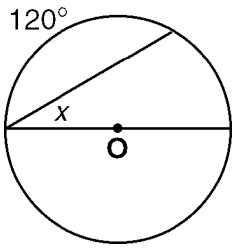
3)



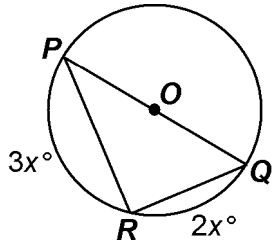

4)




5)

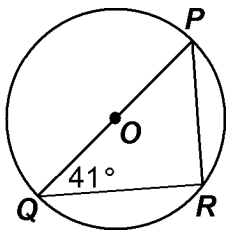


6) In circle $O$ below, $m\overset{\frown}{RQ} = 2x°$ and $m\overset{\frown}{PR} = 3x°$.



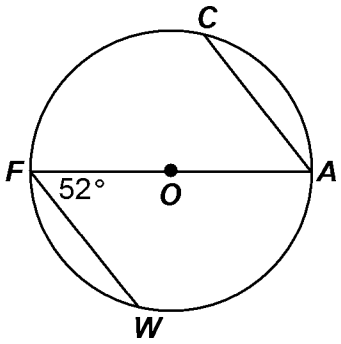

What is $m\angle Q$?

7) In the diagram below, line $PQ$ is a diameter of the circle.



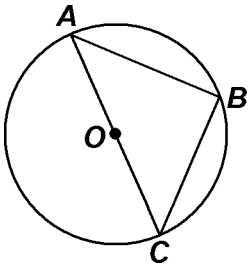

What is the measure of angle $RPQ$?

8) In the accompanying diagram of circle $O$, chords $\overline{AC}$ and $\overline{WF}$ are drawn, $\overline{AOF}$ is a diameter, $\overline{AC} \parallel \overline{WF}$, and $\angle AFW = 52°$.




What is $m\overset{\frown}{AC}$?

9) The accompanying diagram shows triangle $ABC$ inscribed in circle $O$ with the measure of arc $BC$ equal to $86°$.




What is the measure of angle $BCA$?

1) C

2) 24°

WORK SHOWN: $m\angle ACB = \frac{1}{2}(\text{arc } AB) = \frac{1}{2}(48) = 24$

3) 40°

WORK SHOWN: $m\angle x = \frac{1}{2}(\text{intercepted arc}) = \frac{1}{2}(80) = 40$

4) 110°

WORK SHOWN: $m\angle x = \frac{1}{2}(\text{intercepted arc}) = \frac{1}{2}(220) = 110$

5) 30°

WORK SHOWN: An inscribed angle is equal to $\frac{1}{2}$ its intercepted arc; $180 - 120 = 60$, $m\angle x = \frac{1}{2}(60) = 30$

6) 54°

7) 49°

8) 76°

9) 47°