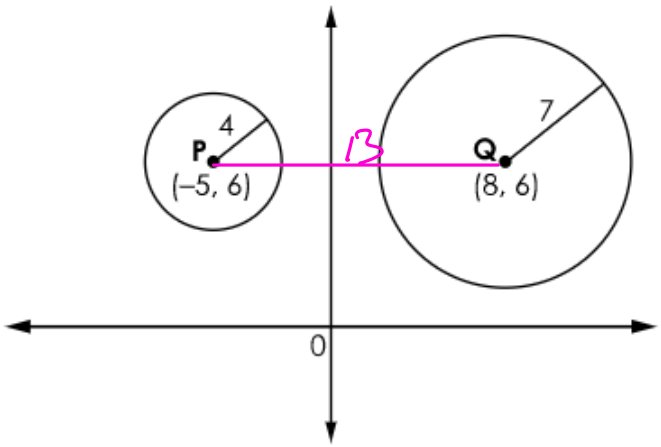
Pear Assessment

Geometry 2017-2024 C

Created By Sean

1 Consider the two circles shown.



$4 \cdot K = 7$

$K = \frac{7}{4}$

To show that circle P is similar to circle Q, circle P is translated t units to the right. The Image is then dilated about its center by a scale factor of s.

What are the values of t and s?

$t =$ 13

$s =$ $\frac{7}{4}$

2 Circle M has radius MN, and Circle P has radius PQ. Points M and P are distinct points.

Select a term for each blank box to complete the statements describing how to prove that the circles are similar.

Translate the center of circle M onto point a

Then dilate the image of circle M about its center by a scale factor of b

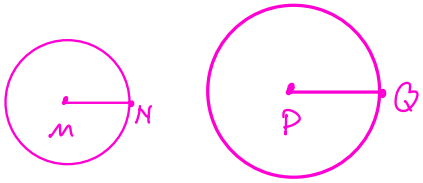
Because this sequence of similarity transformations maps one circle onto the other, the two circles are similar.

a

- N.
- (selected) P.
- Q.

b

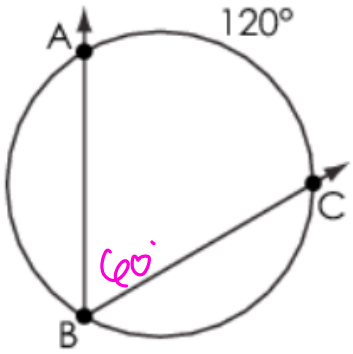
- MN/PQ.
- (selected) PQ/MN.



$MN \cdot K = PQ$

$K = \frac{PQ}{MN}$

3 Angle ABC is inscribed in a circle as shown.



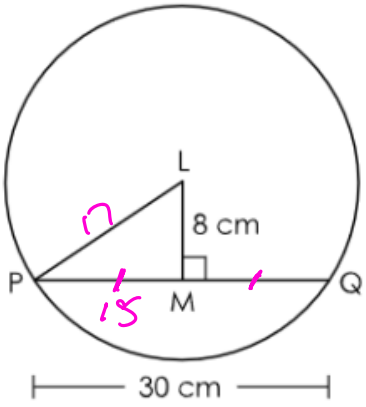
inscribed is half intercepted arc

What is the measure ,in degrees, of $\angle \mathrm{ABC}$?

60° **degrees**

---

4 In the figure shown, L is the center of the circle and $\overline{PQ}$ is a chord of the circle measuring 30 centimeters (**cm**).



PT
8-15-17

What is the length, in centimeters of $\overline{PL}$?

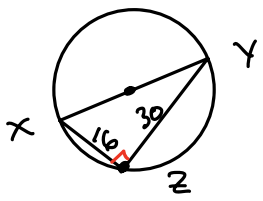
17 ***cm***

---

5 Triangle XYZ is inscribed in a circle, where $\overline{XY}$ is a diameter of the circle, $XZ = 16$ units, and $YZ = 30$ units.

What is the diameter, in units, of the circle?

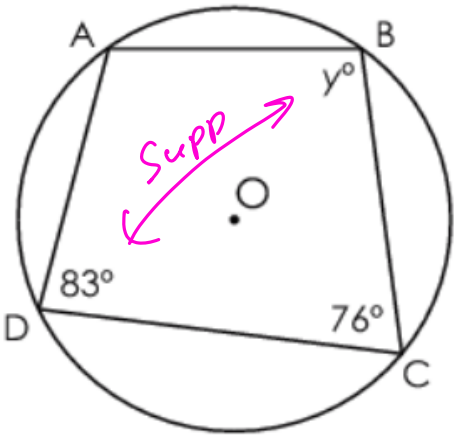
34 units



Right Triangle

PT
8-15-17
16-30-34

6 Quadrilateral $ABCD$ is inscribed in circle O, as shown.



$y + 83 = 180$

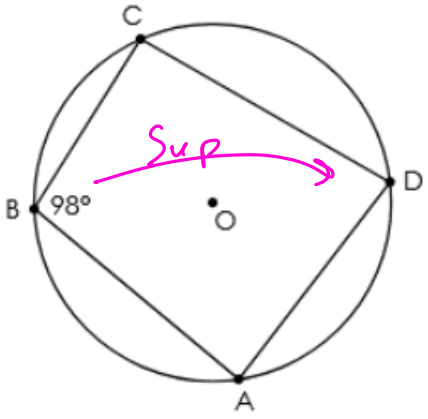
$y = 97$

What is the value of y?

$y =$ 97

---

7 Quadrilateral $ABCD$ is inscribed in circle O, as shown.



What is the measure, in degrees, of $\angle CDA$?

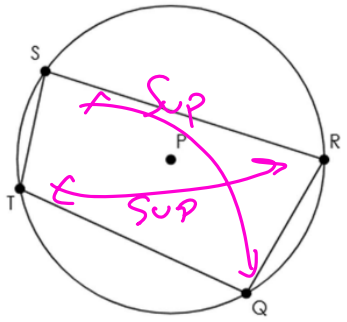
$98 + m\angle D = 180$

$m\angle D = 82$

82° degrees

---

8 Quadrilateral $QRST$ is inscribed in circle P.



Which equation must be true?

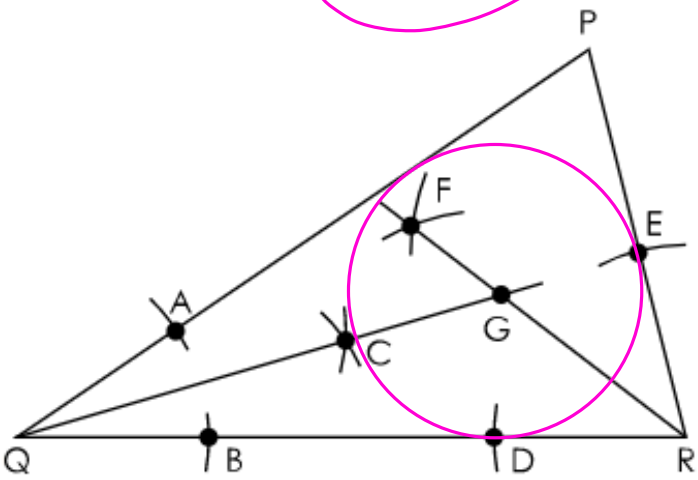
(A) $m\angle Q = 90^\circ$

(B) $m\angle Q = m\angle S$

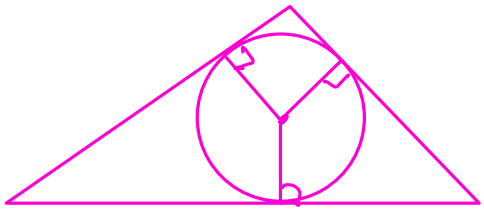
(C) $m\angle Q + m\angle R = 180^\circ$

(D) $m\angle Q + m\angle S = 180^\circ$

9 The first few steps to construct a circle inscribed in triangle PRQ are shown.



Each side of Δ is tangent to circle.



Adam and his friend Jason make the following claims about how they can identify the next step in the construction.

• Adam: Use the fact that the radius drawn to the point of tangency is perpendicular to the tangent line of a circle.
• Jason: Use the fact that the radius drawn perpendicular to a chord bisects the chord.

Complete the sentence to create a statement about whose claim is correct.

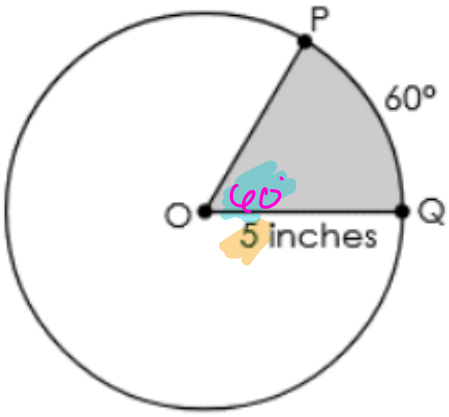
a is correct because this fact can be used to determine the length of the b of the circle by constructing a perpendicular line from point c to any of the sides of the triangle.

a
- (✓) Adam
- ( ) Jason

b
- ( ) Chord
- ( ) diameter
- (✓) radius

c
- ( ) C
- ( ) E
- (✓) G

10 Circle O is shown, where $m\overset{\frown}{PQ} = 60^\circ$ and $OQ = 5$ inches.



$A_{\text{sector}} = \frac{x}{360} \pi r^2$

Which expression represents the area, in square inches, of the shaded sector?

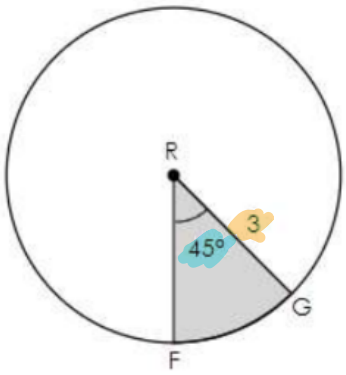
(A) $\frac{60}{360}\pi\,(5)^2$

(B) $\frac{60}{360}\pi\,(10)^2$

(C) $\frac{60}{180}\pi\,(5)^2$

(D) $\frac{60}{180}\pi\,(10)^2$

11 A circle is shown.



$A_{\text{sector}} = \frac{x}{360}\pi r^2$

Which expression represents the shaded area formed by sector FRG?

(A) $(3)^2\pi$

(B) $\frac{(3)^2\pi}{360}$

(C) $\frac{45}{360}(3)^2\pi$

(D) $\left(\frac{315}{360}\right)(3)^2\pi$

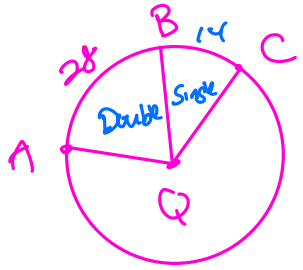
---

12 Points A, B and C lie on a circle with center Q.

- The area of sector AQB is twice the area of sector BQC.
- The length of arc AB is 28 centimeters.

What is the length, in centimeters, of arc BC?

14 *centimeters*



---

13 A circle with center L contains points J and K. Circle L is dilated by a factor of 2, resulting in a new circle with center P. Points M and N are on circle P such that central angle MPN has the same measure as central angle JLK.

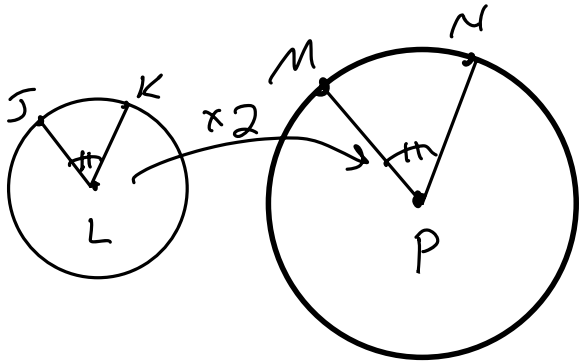
Which statement correctly identifies the relationship between the arc length of JK and the arc length of MN?

(A) The arc length of JK is half the arc length of MN.

(B) The arc length of MN is half the arc length of JK.

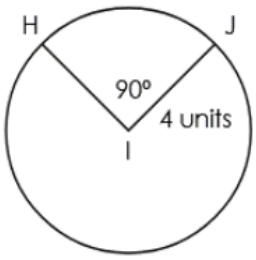
(C) The arc length of JK is a quarter of the arc length of MN.

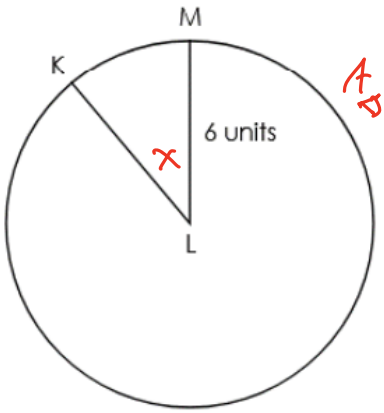
(D) The arc length of MN is a quarter of the arc length of JK.



14 Circles I and L are shown. Sector HIJ and sector KLM have the same area.

$A_{\text{sector}} = \frac{90}{360}\pi(4)^2$





$A_{\text{sector}} = \frac{x}{360}\pi(6)^2$

$\frac{90}{360}\pi(4)^2 = \frac{x}{360}\pi(6)^2$

$90 \cdot 16 = 36 \cdot x$

$1440 = 36x$

$40 = x$

What is the measure, in degrees, of angle KLM?

40 degrees