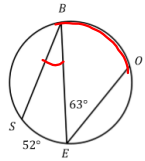


WARM UP OCT 6

Arcs and Inscribed Angles - Part 1
Independent Practice

1. Consider the circle to the right.

Part A: Determine $m\angle SBE$. $\frac{52}{2} = 26^\circ$

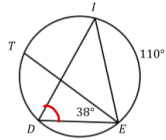


Part B: Determine $m\widehat{OB}$.

$2(63) = 126^\circ$

2. Consider the circle to the right.

Part A: Determine $m\angle IDE$.
 $m\angle IDE = \frac{1}{2} \widehat{IE}$
 $m\angle IDE$ is $\boxed{55}$ = $\frac{1}{2} 110$



Part B: Determine $m\widehat{TD}$.

$m\angle DET = 38^\circ$
 $m\widehat{TD} = 2(38)$
 $\boxed{76^\circ}$

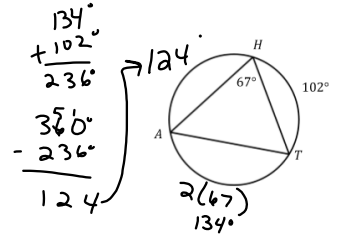
Oct 5-9:14 PM

3. Consider the circle below.

What is $m\angle HTA$?

- Ⓐ 51°
- Ⓑ 67°
- Ⓒ 62°
- Ⓓ 102°

$m\widehat{AH} = 124^\circ$
 $m\angle HTA = \frac{1}{2}(124)$
 $m\angle HTA = 62^\circ$



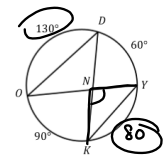
Oct 5-9:15 PM

4. Consider the circle to the right.

Determine $m\angle KNY$.

- Ⓐ 30°
- Ⓑ 45°
- Ⓒ 65°
- Ⓓ 105°

$\frac{130}{60} = 90$
 $\frac{360}{-280} = 80$



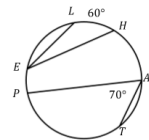
$\frac{130}{+80} = 210$
 $\frac{210}{2} = 105^\circ$

Oct 5-9:15 PM

5. Consider the circle to the right.

Part A: Determine $m\angle LEH$. $\widehat{LH} \div 2 = 60 \div 2 = 30^\circ$

Part B: Determine $m\widehat{PT}$.
 $\angle PAT = 70^\circ$
SO $m\widehat{PT} = 2(70)$
 $\boxed{140^\circ}$



Oct 5-9:15 PM

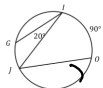
6. Consider the circle to the right.

Part A: Determine $m\angle JG$.

45°

Part B: Determine $m\angle J$.

40°



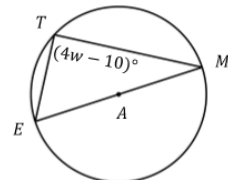
Oct 5-9:15 PM

Anytime a triangle is inscribed in a semicircle, the hypotenuse is the diameter, the angle on the edge of the circle is a right angle

W.

v.

$4w - 10 = 90$
 $4w = 100$
 $\boxed{w = 25}$



Oct 5-9:16 PM

Review
 $ab = cd$

Oct 5-9:16 PM

P 684
 #3

$\frac{12x}{12} = \frac{60}{12}$
 $x = 5$

Oct 6-8:10 AM

#4

$10(18) = 9(x-3)$
 $180 = 9x - 27$
 $+27 \quad +27$
 $\frac{207}{9} = \frac{9x}{9}$
 $23 = x$
 $x = 23$

Oct 6-8:12 AM

#5

$x(x+8) = 6(8)$
 $x^2 + 8x = 48$
 $x^2 + 8x - 48 = 0$
 $(x+12)(x-4) = 0$
 $x = -12$ (Extraneous)
 $x = 4$

Oct 6-8:14 AM

$x^2 + 8x - 48 = 0$
 Zero Product Property
 -48
 $12 \quad -4$
 $(x+12)(x-4) = 0$

Oct 6-9:59 AM

$x^2 + 8x - 48 = 0$
 $(x+12)(x-4) = 0$
 -48
 $12 \quad -4$
 $-12, 4$

Oct 6-8:17 AM

13

$$15(x+3) = 2x(12)$$

$$15x + 45 = 24x$$

$$\begin{array}{r} 15x + 45 = 24x \\ -15x \quad -15x \\ \hline 45 = 9x \\ \frac{45}{9} = \frac{9x}{9} \\ \boxed{5 = x} \\ \boxed{x = 5} \end{array}$$

Oct 6-8:19 AM

$a(a+b) = c(c+d)$

Segment of Secants Theorem

Oct 6-8:21 AM

$a^2 = b(b+c)$

Oct 6-10:03 AM

#8 P685

$$4(4+5) = (x-2)(x-2+x+4)$$

$$36 = (x-2)(2x+2)$$

$$36 = 2x^2 + 2x - 4x - 4$$

$$36 = 2x^2 - 2x - 4$$

$$2x^2 - 2x - 4 - 36 = 0$$

$$2x^2 - 2x - 40 = 0$$

$$2(x^2 - x - 20) = 0 \quad \begin{array}{l} -20 \\ -5 \quad 4 \end{array}$$

$$2(x-5)(x+4) = 0$$

$\boxed{x=5}$ $x=-4$

Oct 6-8:22 AM

$$4(4+5) = (x-2)(x-2+x+4)$$

$$36 = (x-2)(2x+2)$$

$$36 = 2x^2 + 2x - 4x - 4$$

$$36 = 2x^2 - 2x - 4$$

$$\begin{array}{r} 36 = 2x^2 - 2x - 4 \\ -36 \quad -36 \\ \hline 0 = 2x^2 - 2x - 40 \\ 2x^2 - 2x - 40 = 0 \\ 2(x^2 - x - 20) = 0 \quad (\text{Extraneous}) \\ 2(x-5)(x+4) = 0 \\ \boxed{x=5} \quad x=-4 \end{array}$$

Oct 6-10:14 AM

Quadratic formula

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$a=2$
 $b=-2$
 $c=-40$

$$2x^2 - 2x - 40 = 0$$

$$\frac{2 \pm \sqrt{4 - 4(2)(-40)}}{4}$$

$$\frac{2 \pm \sqrt{4 - 320}}{4}$$

$$\frac{2 \pm \sqrt{324}}{4}$$

$$\frac{2 \pm 18}{4} = \frac{2+18}{4} \quad \frac{2-18}{4}$$

$\boxed{5, -4}$

Oct 6-8:28 AM

#6

$$6(10+6) = 8(8+x)$$

$$96 = 64 + x$$

$$\begin{array}{r} -64 \quad -64 \\ \hline 35 = x \end{array}$$

Oct 6-8:33 AM

#7

$$5(7+5) = x(x+4)$$

$$60 = x^2 + 4x$$

$$x^2 + 4x - 60 = 0$$

$$(x+10)(x-6) = 0$$

-10, 6 $x=6$

Oct 6-8:36 AM

#9

$$\begin{array}{r} 5/6 \\ \times 9 \\ \hline 144 \end{array}$$

$$x^2 = 9(9+7)$$

$$x^2 = 144$$

$$x = \pm 12$$

$$\boxed{x=12}$$

Oct 6-10:23 AM

$$4 - 8$$

$$x^2 + 4x - 60 = 0$$

$$(x+10)(x-6) = 0$$

$$\begin{array}{l} x+10=0 \\ -10 -10 \\ \hline x=-10 \end{array} \quad \begin{array}{l} x-6=0 \\ +6 +6 \\ \hline x=6 \end{array}$$

-2

Oct 6-8:38 AM

Equation of a Circle (h,k)
Center

$$(x-h)^2 + (y-k)^2 = r^2$$

$(7,2)$ Center
5 radius

$$(x-7)^2 + (y-2)^2 = 25$$

Oct 6-8:43 AM

Center $(8,5)$ Example
Radius 35

$$(x-h)^2 + (y-k)^2 = r^2$$

$$(x-8)^2 + (y-5)^2 = 35^2$$

$$(x-8)^2 + (y-5)^2 = 1225$$

Oct 6-10:28 AM

$$(x+3)^2 + (y+8)^2 = 144$$

Center = $(-3, -8)$
 radius = $\sqrt{144} = 12$

Oct 6-10:31 AM

$(-6, -7)$ / 5
 Center / radius

$$(x - (-6))^2 + (y - (-7))^2 = 5^2$$

$$(x+6)^2 + (y+7)^2 = 25$$

Oct 6-10:32 AM

$$(x-3)^2 + (y+2)^2 = 16$$

Center $(3, -2)$
 radius 4

$$(x-3)^2 + (y+2)^2 = 16$$

Oct 6-8:47 AM

$(5, 3)$ $r=8$

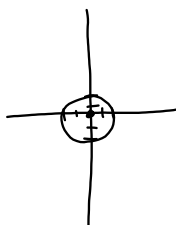
$$(x-h)^2 + (y-k)^2 = r^2$$

$$(x-5)^2 + (y-3)^2 = 64$$

Oct 6-8:50 AM

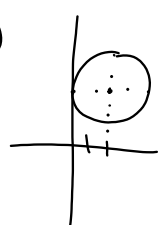
P 692
 # 3. Center $(0, 0)$
 radius 2

$$(x-0)^2 + (y-0)^2 = 2^2$$

$$x^2 + y^2 = 4$$


Oct 6-8:51 AM

4 Center $(2, 3)$
 radius = 2

$$(x-2)^2 + (y-3)^2 = 4$$


Oct 6-8:53 AM

#10 Center $(-4, 1)$
 radius 1

$$(x - (-4))^2 + (y - 1)^2 = 1^2$$

$$(x + 4)^2 + (y - 1)^2 = 1$$

Oct 6-8:55 AM

#25 $(x+2)^2 + (y+6)^2 = 25$
 Center $(-2, -6)$
 radius $\sqrt{25} = 5$

Oct 6-8:56 AM

#6

$6(16) = 8(x+8)$

Oct 6-8:58 AM

$x(x+12) = (x+4)(x+4)$

$$x^2 + 12x = x^2 + 8x + 16$$

$$\begin{array}{r} 12x = 8x + 16 \\ -8x \quad -8x \\ \hline 4x = 16 \\ \textcircled{x = 4} \end{array}$$

Oct 6-8:58 AM