03/20

Wednesday Warm-up

Factor

1) $x^2 + 6x + 5$

MulH.C
5
1 5

$(x+1)(x+5)$

2) $y^2 + 9y + 8$

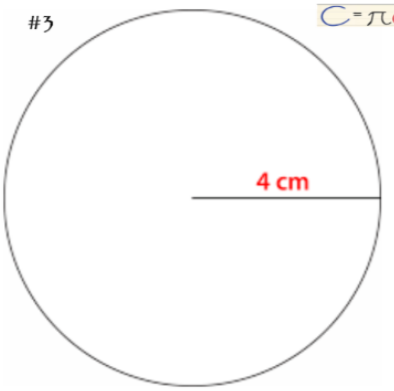
8
1 8
2 4

$(y+1)(y+8)$

Find the circumference of the below circle.

#3

$C = \pi d$



$d = 2 \cdot r$
$d = 2(4)$
$d = 8$

$C = \pi d$
$C = \pi(8)$
$C = 8\pi$ cm $C = 25.1$ cm

Extra Factoring

Factor the following (remember Add to B multiply to C)

28
1 28
2 14
3 -
4 7

4
1 4
2 2

1. $x^2+3x-28$ $(x+7)(x-4)$

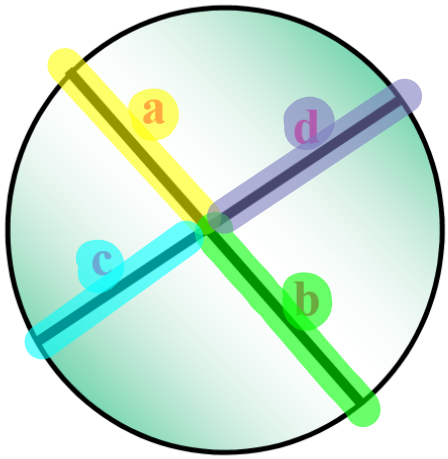
2. x^2-5x+4 $(x-1)(x-4)$

$(x-4)(x-1)$

3. $x^2+8x+12$ $(x+2)(x+6)$

12
1 12
2 6
3 4

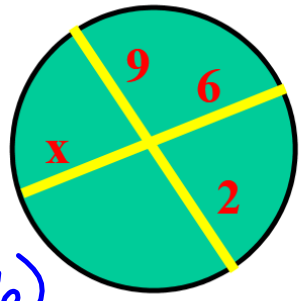
Chord-Chord Rule: Two chords intersect INSIDE the circle



$ab = cd$

part • part = part • part

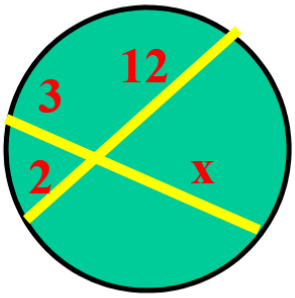
Example 1:



$9(2) = x(6)$

$18 = 6x$

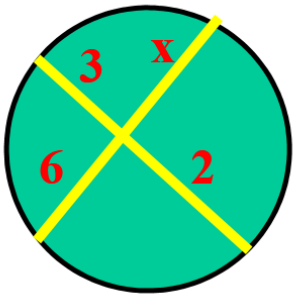
$3 = x$



$3(x) = 2(12)$

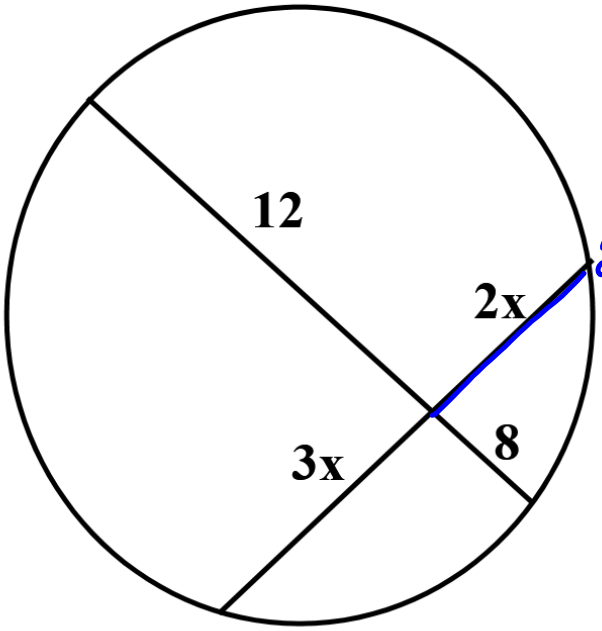
$3x = 24$

$x = 8$



$x = 1$

Example 2: Find x



$12(8) = 3x(2x)$

$96 = 6x^2$

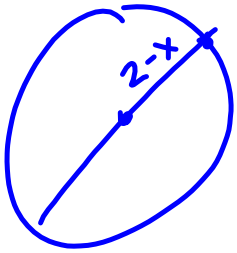
$\frac{96}{6} = \frac{6x^2}{6}$

$2(-4) = -8$

$\sqrt{16} = \sqrt{x^2}$

$\pm 4 = x$

Check $x = 4$



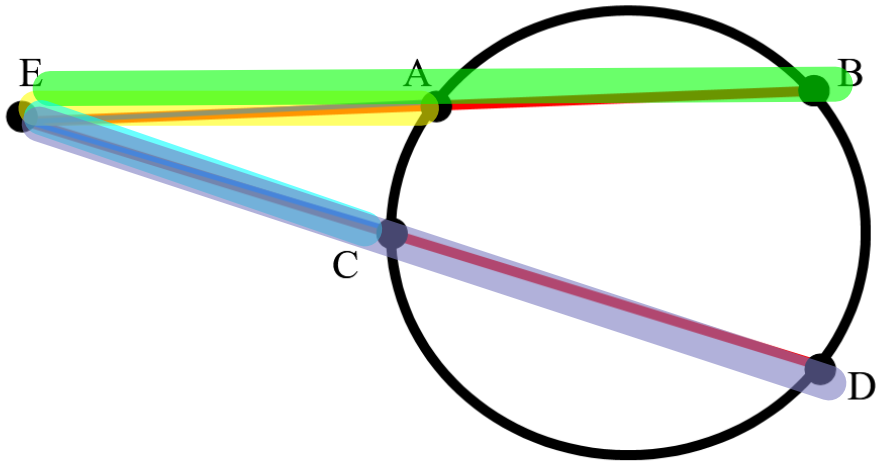
$2-(-4)$

6

Secant-Secant Rule:

OW-OW

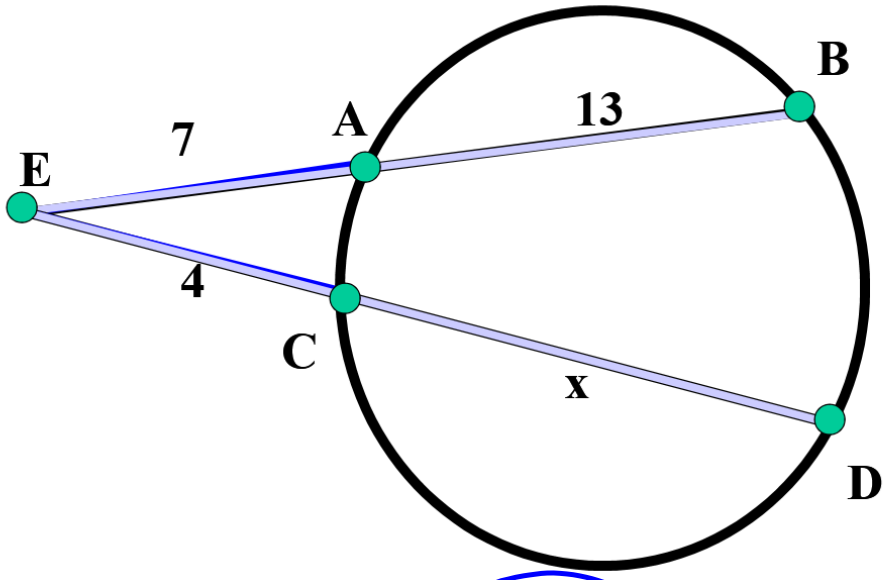
Secant-Secant Rule: Two secants intersect OUTSIDE the circle



outside • whole = outside • whole

EA • EB = EC • ED

Example 3:



$49+91$

$7(7+13) = 4(4+x)$

$7(20) = 4(4+x)$

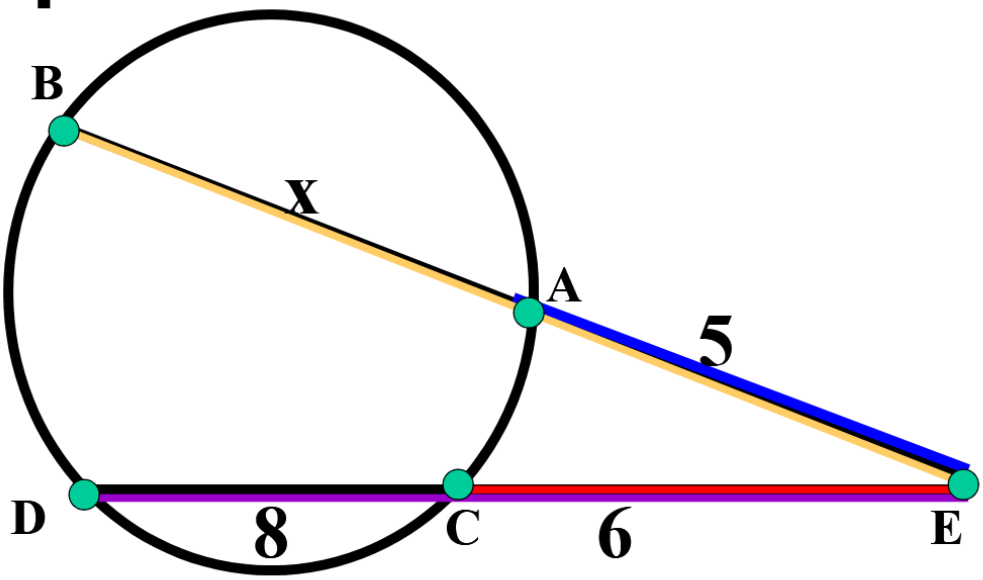
$140 = 16+4x$

$-16 \quad -16$

$\frac{124}{4} = \frac{4x}{4}$

$x = 31$

Example 4:



$5(5+x) = 6(6+8)$

$5(5+x) = 6(14)$

$25 + 5x = 84$

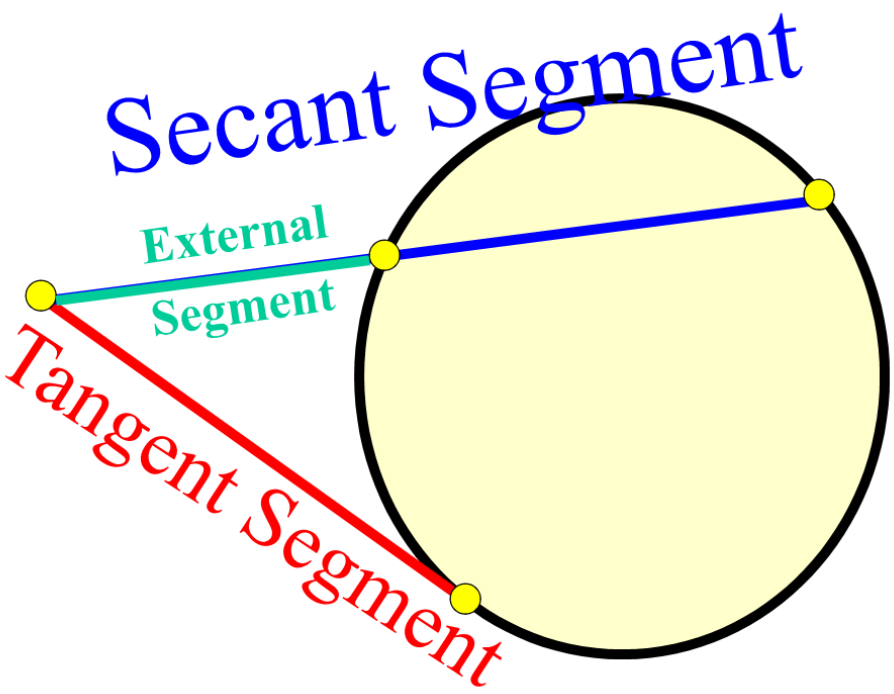
$-25 \quad -25$

$\frac{5x}{5} = \frac{59}{5}$

$x = 11.8$

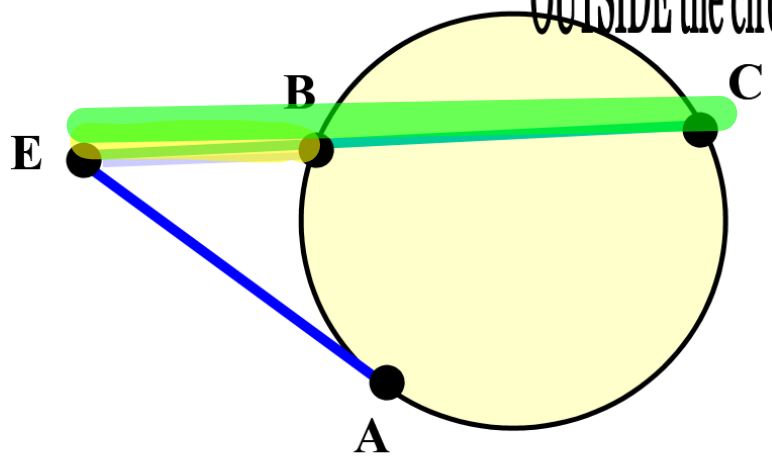
Secant-Tangent Rule:

When A secant and tangent originate from the same point OUTSIDE the circle, use O • W = O • W.



Notice that on the tangent segment, the **outside is the whole**!

Secant-Tangent Rule: A secant and tangent originate from the same point OUTSIDE the circle



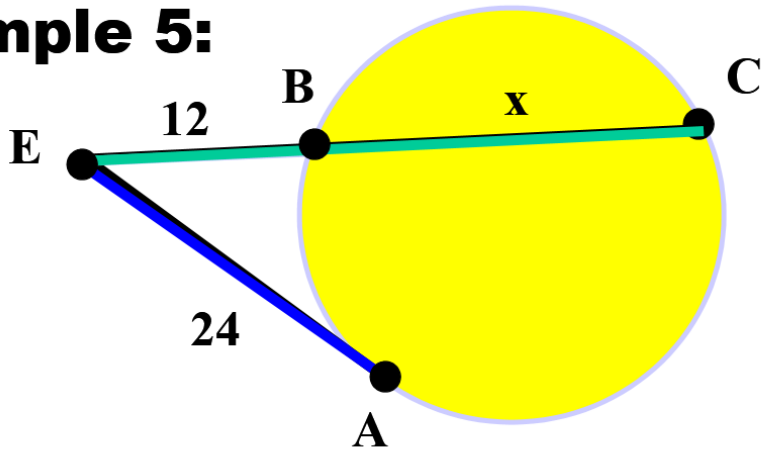
outside • whole = outside • whole

$$EA^2 = EB \cdot EC$$

EA . EA

x . x

Example 5:



outside • whole = outside • whole

$12(12+x) = 24(24)$ $24(24+0)$

$144 + 12x = 576$

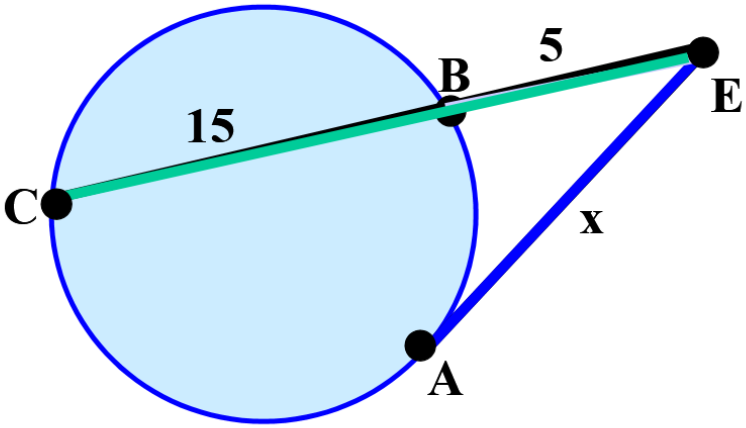
$-144 \quad -144$

$12x = 432$

$\frac{12x}{12} = \frac{432}{12}$

$x = 36$

Example 6:



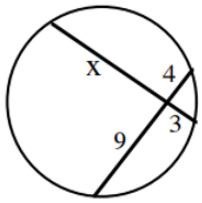
outside • whole = outside • whole

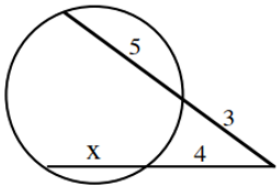
$5(5+15) = x \cdot x$

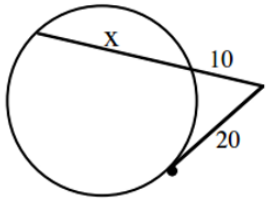
$5(20) = x^2$ $\quad x = 10$

$\sqrt{100} = \sqrt{x^2}$

Ext Secant • Whole Secant







$3(x)=9(4)$

$\frac{3x}{3}=\frac{36}{3}$

$x=12$

$3(3+5)=4(4+x)$

$3(8)=16+4x$

$24=16+4x$

$-16 \quad -16$

$8=4x$

$x=2$

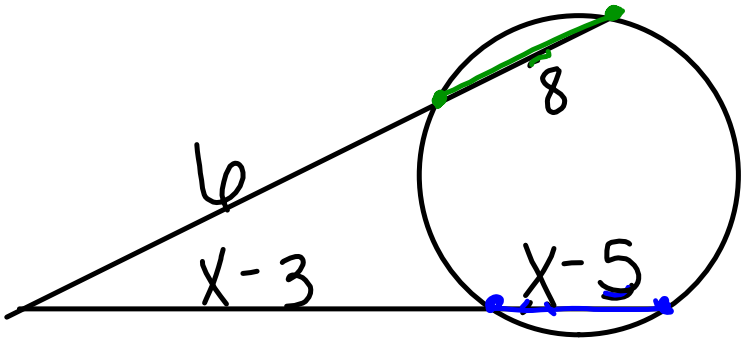
$20^2=10(10+x)$

$400=100+10x$

$-100 \quad -100$

$\frac{300}{10}=\frac{10x}{10}$

$30=x$



$O \cdot W = O \cdot W$

$6(6+8) = x-3 \cdot (x-3+x-5)$

$6 \cdot 14 = (x-3)(2x-8)$

$84 = 2x^2 - 8x - 6x + 24$

$84 = 2x^2 - 14x + 24$

$-84 \qquad -84$

$\frac{0}{2} = \frac{2x^2}{2} - \frac{14x}{2} - \frac{60}{2}$

$0 = x^2 - 7x - 30$

$0 = (x+3)(x-10)$

$x+3=0 \quad x-10=0$

$-3 \ -3 \quad +10 \ +10$

$x=-3 \quad x=10$