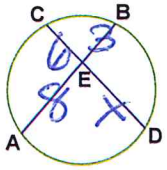
part·part=part·part
P·P=P·P

Name Schlansky
Mr. Schlansky

Date _____
Geometry

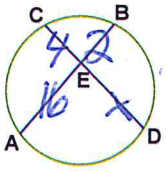
Intersecting Chords (Segments)

1. If $\overline{AE}=8$, $\overline{EB}=3$, $\overline{CE}=6$, find $\overline{ED}$



P·P=P·P
8·3=6·x
$\frac{24}{6}=\frac{6x}{6}$
4=x

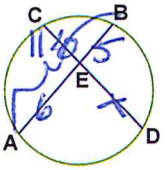
2. If $\overline{AE}=16$, $\overline{EB}=2$, $\overline{CE}=4$, find $\overline{ED}$



P·P=P·P
4·x=16·2
$\frac{4x}{4}=\frac{32}{4}$
x=8

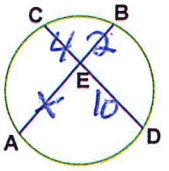
3. If $\overline{AB}=11$, $\overline{EB}=5$, $\overline{CE}=10$, find $\overline{ED}$

11-5=6



P·P=P·P
6·5=10·x
$\frac{30}{10}=\frac{10x}{10}$
3=x

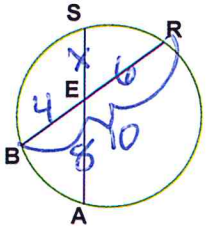
4. If $\overline{ED}=10$, $\overline{EB}=2$, $\overline{CE}=4$, find $\overline{AB}$



20+2=22

P·P=P·P
x·2=4·10
$\frac{2x}{2}=\frac{40}{2}$
x=20
AB=22

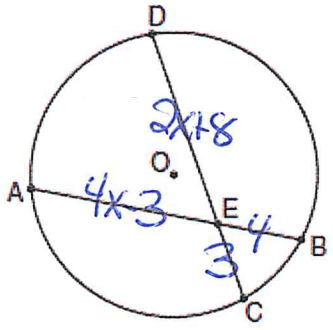
5. If $\overline{BR}=10$, $\overline{BE}=4$, $\overline{AE}=8$, find $\overline{ES}$



$\begin{array}{r} 10 \\ -4 \\ \hline 6 \end{array}$

P·P=P·P
4·6=8·x

6. In the diagram of circle O below, chord $\overline{AB}$ intersects chord $\overline{CD}$ at E, $DE = 2x+8$, $EC = 3$, $AE = 4x-3$, and $EB = 4$.



What is the value of x?

1) 1
2) 3.6
3) 5
4) 10.25

$P \cdot P = P \cdot P$

$3(2x+8) = 4(4x-3)$

$6x+24 = 16x-12$

$-6x \quad -6x$

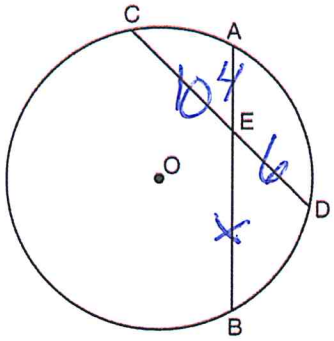
$24 = 10x-12$

$+12 \quad +12$

$\frac{36}{10} = \frac{10x}{10}$

$3.6 = x$

7. In the diagram below of circle O, chords $\overline{AB}$ and $\overline{CD}$ intersect at E.



If $CE = 10$, $ED = 6$, and $AE = 4$, what is the length of $\overline{EB}$?

1) 15
2) 12
3) 6.7
4) 2.4

$P \cdot P = P \cdot P$

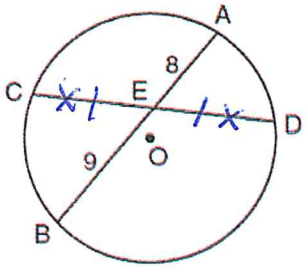
$4 \cdot x = 10 \cdot 6$

$\frac{4x}{4} = \frac{60}{4}$

$x = 15$

8. In the diagram below of circle O, chord $\overline{AB}$ bisects chord $\overline{CD}$ at E. If $AE = 8$ and $BE = 9$, find the length of $\overline{CE}$ in simplest radical form.

(cuts in two $\cong$ segments)



$P \cdot P = P \cdot P$

$9 \cdot 8 = x \cdot x$

$\sqrt{72} = \sqrt{x^2}$

$\sqrt{72} = x$

PS: $\sqrt{36}$ NPS: $\sqrt{2}$

$6\sqrt{2}$