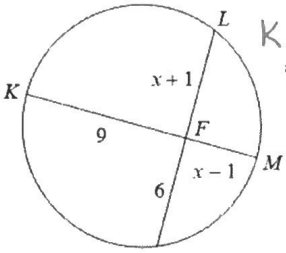
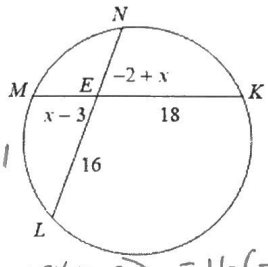
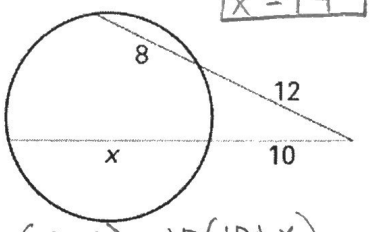
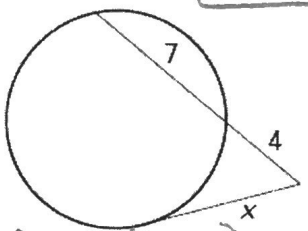
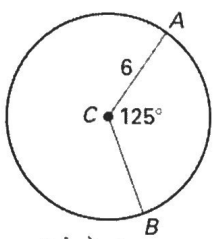
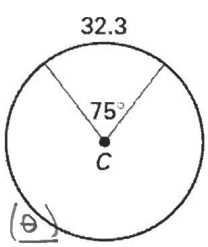
GSE Geometry
Unit 5B

Name: Key
Date: _____ Block: _____

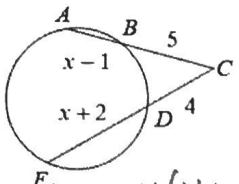
Circles Unit Review

What you need to know & be able to do	Things to Remember	Examples	
Find the length of segments if the segments are in the **inside** of the circle.	POP = POP Product (Mult) of Pieces	1. Find the length of $\overline{KM}$ and $\overline{JL}$  KM = 5+1+6 = 12 JL = 9+5+1 = 13 $6(x+1) = 9(x-1)$ $6x+6 = 9x-9$ $15 = 3x$ $5 = x$	2. Find the value of x.  $18(x-3) = 16(-2+x)$ $18x - 54 = -32 + 16x$ $2x = 22$ $x = 11$
Find the length of segments if the segments are **outside** of the circle.	OW = OW outside • whole (out + in)	3. Find the value of x.  $12(12+8) = 10(10+x)$ $12(20) = 100 + 10x$ $140 = 10x$ $x = 14$	4. Find the value of x.  $x(x) = 4(4+7)$ $x^2 = 44$ $x \approx 6.6$
Find the circumference of circles.	$C = 2\pi r$	5. Find the circumference of a circle with a radius of 8 ft. $C = 2\pi(8)$ $C = 16\pi$ ft	6. The circumference of a circle is 25 m. What is the diameter? $C = 2\pi r$ $\frac{25}{2\pi} = \frac{2\pi r}{2\pi}$ $4 \approx r$ diameter ≈ 8
Find arc lengths.	Arc L = $2\pi r \cdot \frac{Arc}{360°}$	7. Find the length of $\widehat{AB}$  $A_L = 2\pi(6)(125/360) =$ $\frac{25\pi}{6}$	8. Find the radius.  $A_L = 2\pi r\left(\frac{\theta}{360}\right)$ $32.3 = 2\pi r\left(\frac{75}{360}\right) \cdot 360$ $11628 = 150\pi r$ $\frac{11628}{150\pi} = \frac{150\pi r}{150\pi}$ $r \approx 24.7$

Mixed Practice Problems

Solve for x.

9.



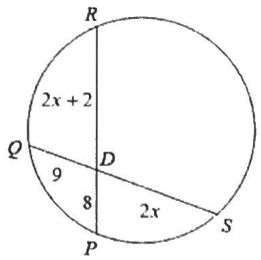
$5(5+x-1) = 4(4+x+2)$

$5(4+x) = 4(6+x)$

$20+5x = 24+4x$

$\boxed{x = 4}$

10.



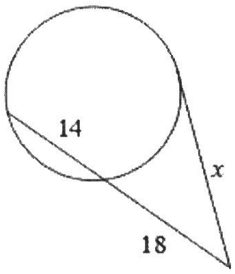
$2x(9) = 8(2x+2)$

$18x = 16x+16$

$2x = 16$

$\boxed{x = 8}$

11.



$x^2 = 18(18+14)$

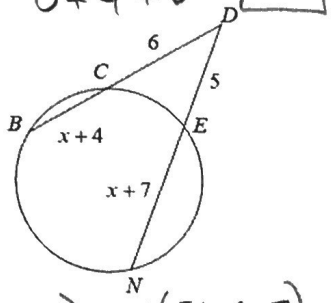
$x^2 = 576$

$\boxed{x = 24}$

Find the indicated measurement.

12. Find *BD*

$6+4+6 = \boxed{10}$



$6(6+x+4) = 5(5+x+7)$

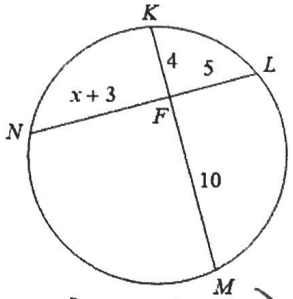
$6(10+x) = 5(12+x)$

$60+6x = 60+5x$

$0 = x$

13. Find *LN*

$5+3+5 = \boxed{13}$



$4(10) = 5(x+3)$

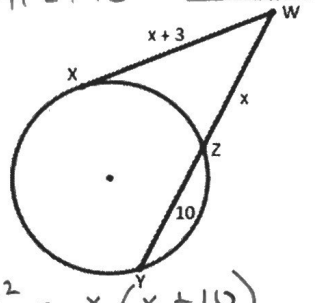
$40 = 5x+15$

$25 = 5x$

$5 = x$

14. Find *WY*

$4.5+10 = \boxed{14.5}$



$(x+3)^2 = x(x+10)$

$(x+3)(x+3)$

$x^2+6x+6x+9 = x^2+10x$

$x^2+12x+9 = x^2+10x$

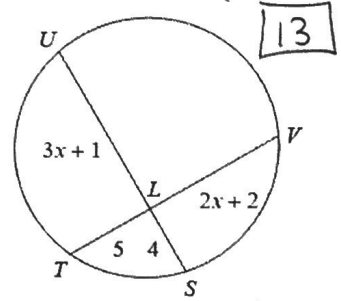
$9 = 2x$

$x = 4.5$

15. Find *TV*

$5+2(3)+2$

$\boxed{13}$



$4(3x+1) = 5(2x+2)$

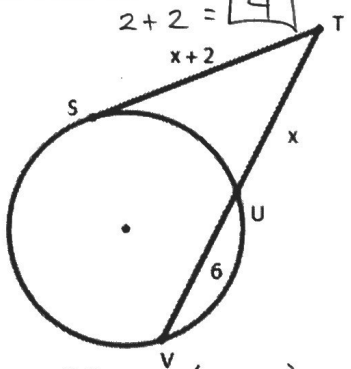
$12x+4 = 10x+10$

$2x = 6$

$x = 3$

16. Find *ST*

$2+2 = \boxed{4}$



$(x+2)^2 = x(x+6)$

$(x+2)(x+2) = x^2+6x$

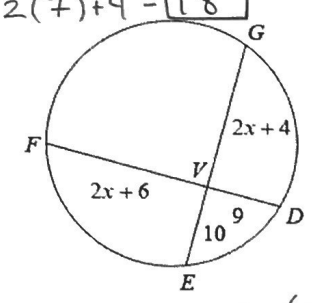
$x^2+4x+4 = x^2+6x$

$4 = 2x$

$2 = x$

17. Find *VG*

$2(7)+4 = \boxed{18}$



$9(2x+6) = 10(2x+4)$

$18x+54 = 20x+40$

$14 = 2x$

$7 = x$