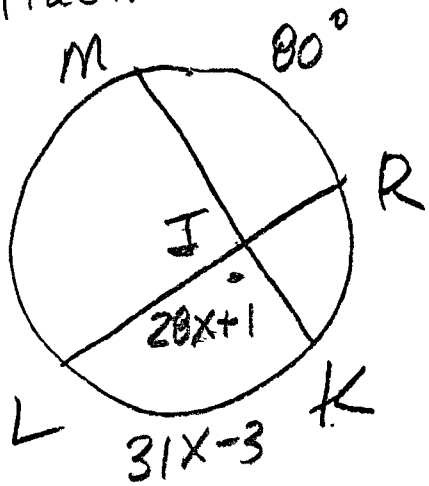
Geometry Weds. 1-30-13 | CLASS NOTES

Worksheet Practice

(16) $X=?$



$$\frac{80+(31x-3)}{2} = (28x+1)$$

$$2 \cdot \frac{77+31x}{2} = (28x+1)\,2$$

$$77+31x = 56x+2$$

$$-31x \quad -31x$$

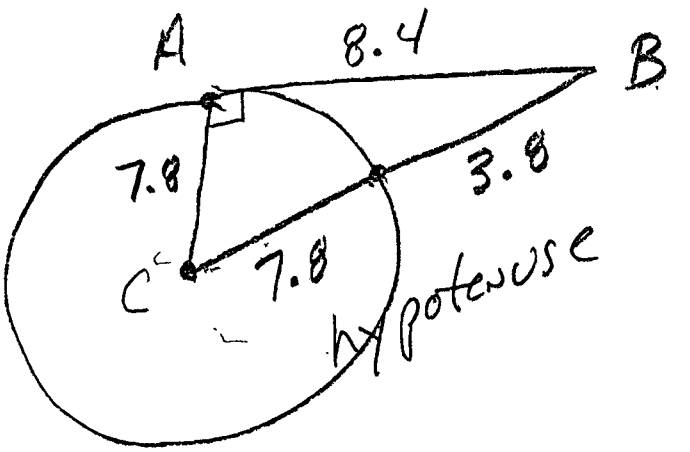
$$77 = 25x+2$$

$$-2 \quad -2$$

$$\frac{75}{25} = \frac{25x}{25}$$

$$\boxed{3 = x}$$

(1) Is $\overline{AB}$ a tangent?



$$(7.8+3.8)^2 \stackrel{?}{=} 8.4^2 + 7.8^2$$

$11.6 \times 11.6 = 134.56$

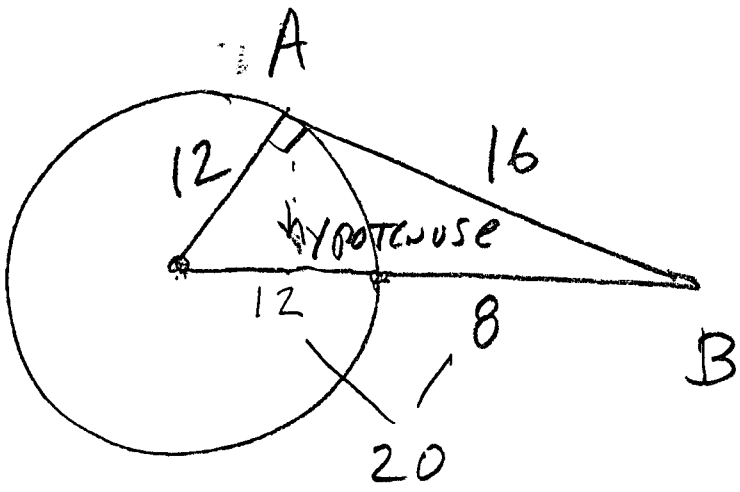
$84 \times 84 = 7056$

$78 \times 78 = 6084$

$6084 + 7056 = 13140$

$134.56 \neq 131.40$ NOT TANGENT

(2) IS AB A tangent?



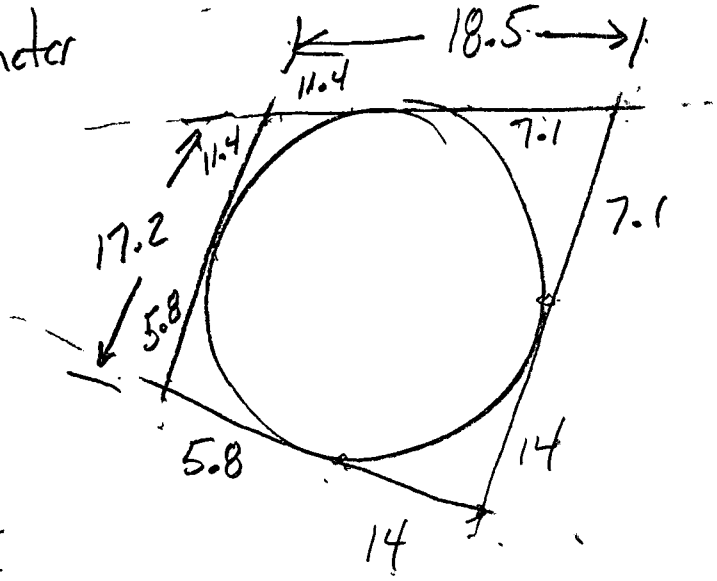
$$20^2 \stackrel{?}{=} 12^2 + 16^2$$

$$400 \stackrel{?}{=} 144 + 256$$

$$400 \stackrel{?}{=} 400$$

Yes, tangent

(3) Perimeter



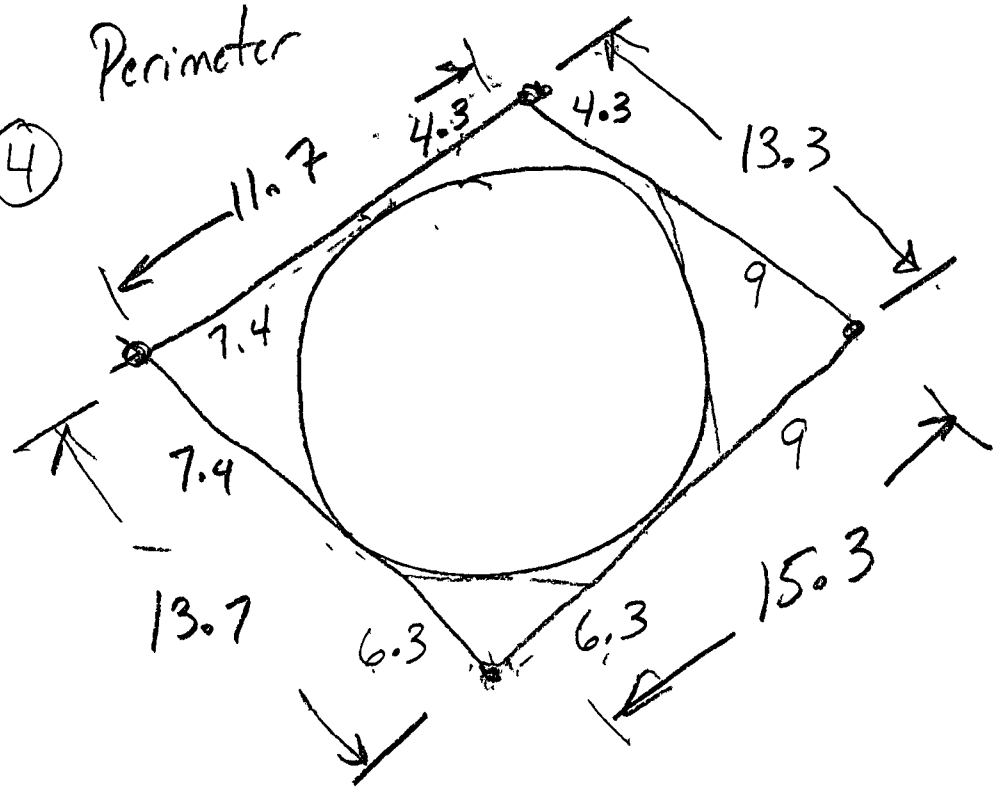
$$\begin{array}{r} {}^{6}\cancel{1}{}^{1} \\ 18.2 \\ 11.4 \\ \hline 5.8 \end{array}$$

$$\begin{array}{r} {}^{2}1{}^{1}8.5 \\ 17.2 \\ 19.8 \\ 21.1 \\ \hline 76.6 \end{array}$$

Perimeter ✓

Perimeter

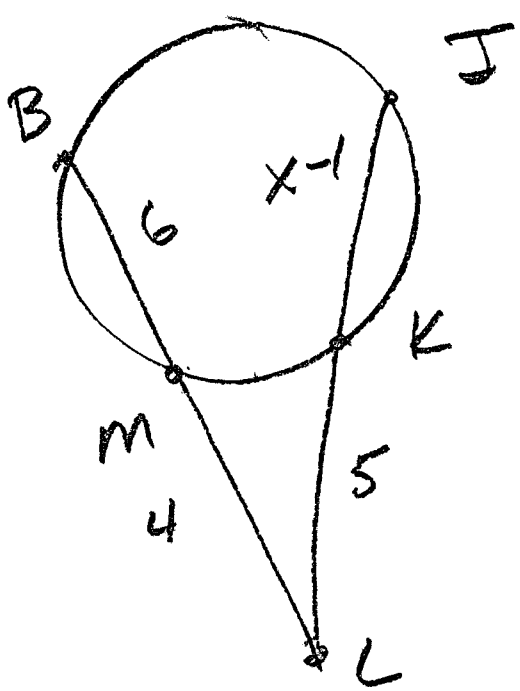
(4)



$$P = 11.7 + 13.7 + 15.3 + 13.3$$

$$\boxed{P = 54.0}$$

(36) JL=?



$10 \cdot 4 = [(x-1)+5]\,5$

$40 = [x+4]\,5$

$40 = 5x + 20$

$-20 \qquad -20$

$\frac{20}{5} = \frac{5x}{5}$

$4 = x$

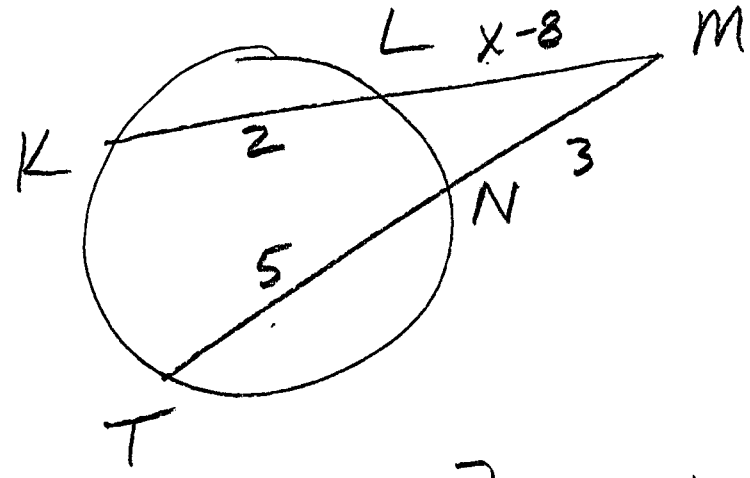
$JL = (x-1)+5$

$= (4-1)+5$

$= 3+5$

$JL = 8$

(43) Find LM



$8 \cdot 3 = [(x-8)+2](x-8)$

$24 = [x-6][x-8]$

$24 = x^2 - 8x - 6x + 48$

$-24 \qquad\qquad -24$

$0 = x^2 - 14x + 24$

$a = 1$ $\qquad b^2 - 4ac$

$b = -14$ $\qquad (-14)^2 - 4(1)(24)$

$c = 24$ $\qquad 196 - 96 = d = 100$

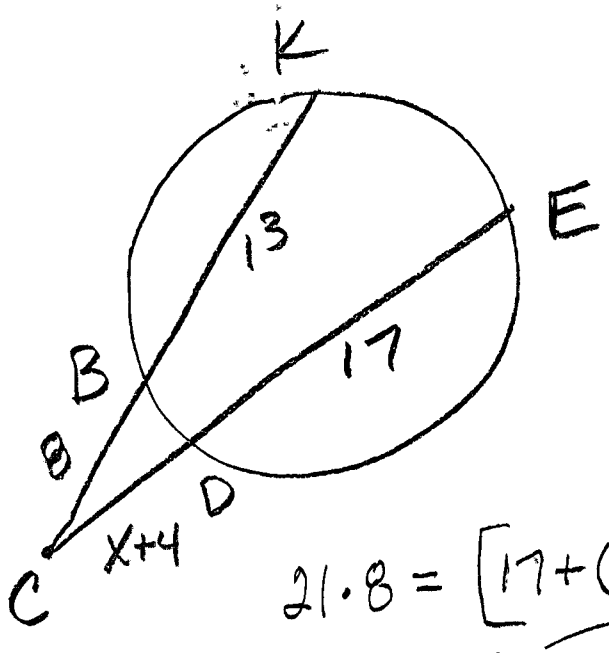
$x = \frac{-b \pm \sqrt{d}}{2a} = \frac{14 \pm 10}{2} = \{12, \cancel{2}\}$

$LM = x - 8$

$LM = 12 - 8 = 4$

(44)

DC = ?



$21 \cdot 8 = [17 + (x+4)](x+4)$

$168 = [x+21][x+4]$

$168 = x^2 + 4x + 21x + 84$

$-168 \qquad\qquad -168$

$0 = x^2 + 25x - 84$

$a = 1$

$b = 25$

$c = -84$

$b^2 - 4ac$

$(25)^2 - 4(1)(-84)$

$625 + 336 = 961 = d$

$$x = \frac{-b \pm \sqrt{d}}{2a} = \frac{-25 \pm 31}{2}$$

$$x = \left\{\frac{6}{2}, \frac{-56}{2}\right\}$$

$x = \{3, -28\}$

$DC = x + 4$

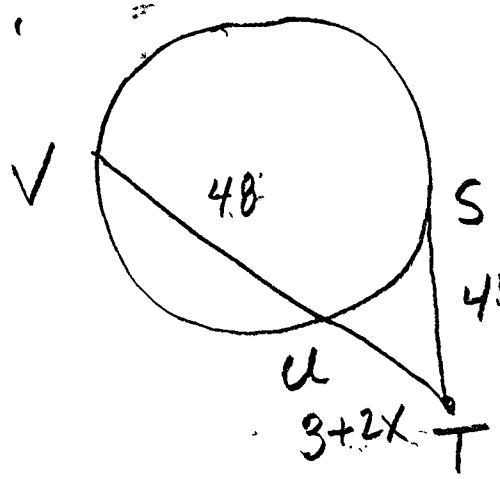
$DC = 3 + 4 = 7$

25
×25
125
50
625

625
336
961

CK 31
31
31
93
961 ✓

(45) TV?



45
45
225
180
2025

$[48+(3+2x)](3+2x) = 45^2$

$[51+2x][3+2x] = 2025$

$153 + 102x + 6x + 4x^2 = 2025$

-2025

$4x^2 + 108x - 1872 = 0$

$4[x^2 + 27x - 468] = 0$

$a = 1$

$b = 27$

$c = -468$

$b^2 - 4ac$

$(27)^2 - 4(1)(-468)$

$729 + 1872 = 2601 = d$

$x = \frac{-b \pm \sqrt{d}}{2a} = \frac{-27 \pm 51}{2} = \{12, -39\}$

$TV = 51 + 2x$

$TV = 51 + 2(12) = 75$

2025 − 153 = 1872

27 × 27 = 729

468 × 4 = 1872

CK: 51 × 51 = 2601

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$

$11^2 = 121$
$12^2 = 144$
$13^2 = 169$
$14^2 = 196$
$15^2 = 225$
$16^2 = 256$
$17^2 = 289$
$18^2 = 324$
$19^2 = 361$
$20^2 = 400$

$30^2 = 900$
$40^2 = 1600$
$50^2 = 2500$
$60^2 = 3600$

ACT Practice