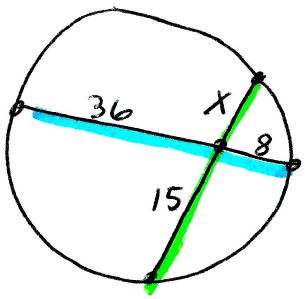
Geo Weekly Review 5/4 to 5/7

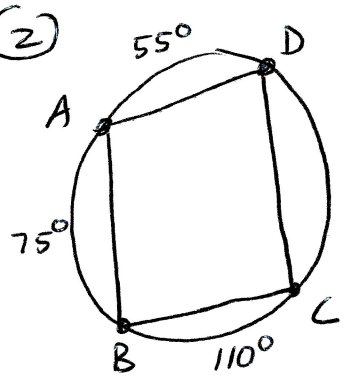
SOLUTIONS

① 

$(36)(8) = (X)(15)$

$288 = 15X$

$X = \frac{288}{15} = 19.2$

② 

$m\angle D = \frac{1}{2}(75+110)$

$m\angle D = 92.5°$

$m\angle B = 180 - 92.5$

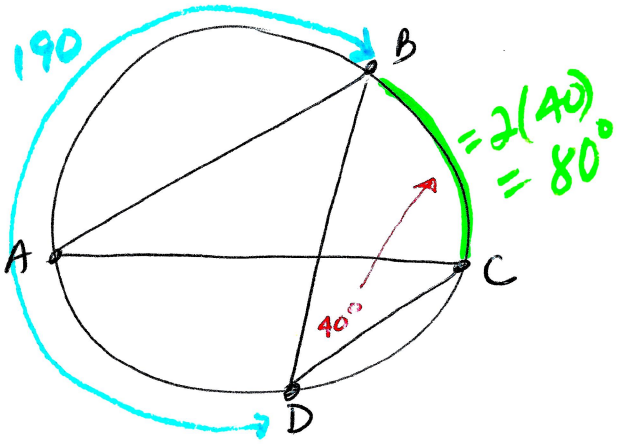
$m\angle B = 87.5°$

$m\angle C = \frac{1}{2}(55+75)$

$m\angle C = 65°$

$m\angle A = 180 - 65$

$m\angle A = 115°$

③ 

Since $\angle D$ & $\angle A$ both intercept $\overset{\frown}{BC}$ they must be $\cong$.

$m\angle A = m\angle D = 40°$

$m\overset{\frown}{CD} = 360° - 80 - 190$

$m\overset{\frown}{CD} = 90°$

④ $(x+7)^2 + (y-1)^2 = 289$

$(x-(-7))^2$ → $h = -7$

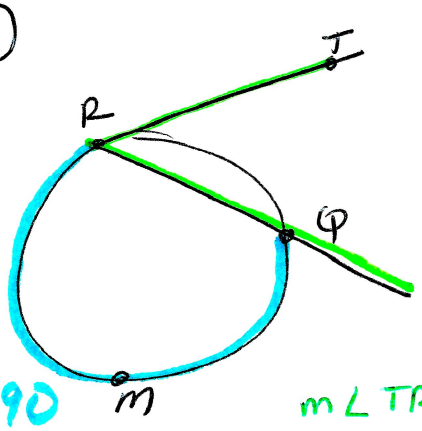
$k = 1$

$\sqrt{r^2} = \sqrt{289}$

$r = 17$

Center: $(h,k) = (-7,1)$

radius $= 17$

⑤ 

$m\angle TRQ = \frac{1}{2} m\overset{\frown}{RQ}$

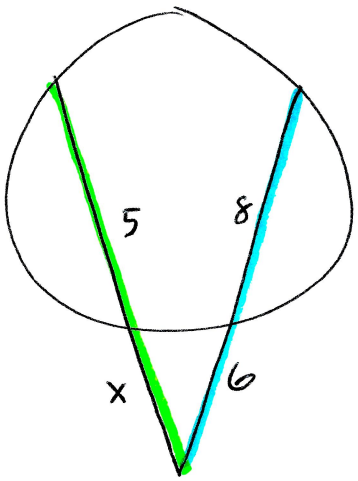
$m\overset{\frown}{RQ} = 360 - 190$

$= 170$

$m\angle TRQ = \frac{1}{2}(170°)$

$m\angle TRQ = 85°$

(6)



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

$x^2+5x = 84$

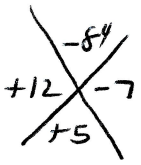
$-84 \quad -84$

$x^2+5x-84=0$

$(x+12)(x-7)=0$

$x = 7, -12$

x can't be neg in this problem



$x=7$

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(7) center $(-2,8)$ $h=-2$ $k=8$

radius is distance from center $(-2,8)$ & $(4,3)$

$(x--2)^2+(y-8)^2=r^2$

$(x+2)^2+(y-8)^2=61$

$r=\sqrt{(4--2)^2+(8-3)^2}=\sqrt{6^2+5^2}$

$=\sqrt{61}$

$r=\sqrt{61}$

$r^2=(\sqrt{61})^2=61$

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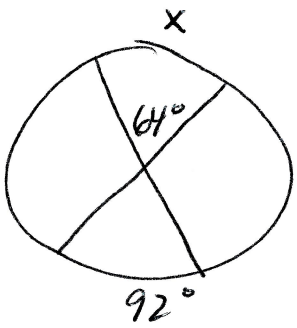
(8)



$2 \cdot 64^\circ = \frac{1}{2}(92^\circ+x) \cdot 2$

$128^\circ = 92^\circ + x$

$-92^\circ \quad -92^\circ$

$x=36^\circ$

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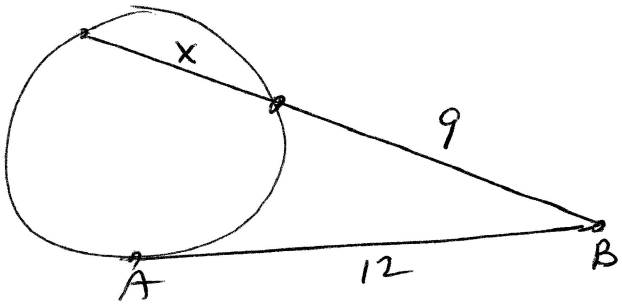
(9)



$(x+9)(9) = (12)^2$

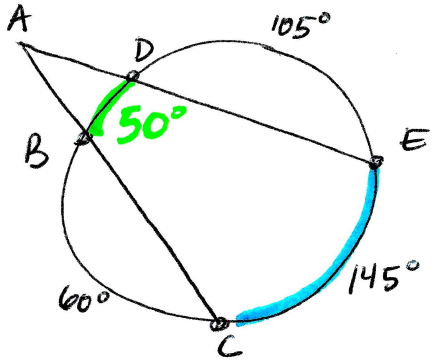
$9x+81 = 144$

$-81 \quad -81$

$\frac{9x}{9} = \frac{63}{9}$

$x=7$

(10)



$m\overset{\frown}{BD} = 360 - 105 - 145 - 60 = 50°$

$m\angle A = \frac{1}{2}(145 - 50)$

$m\angle A = \frac{1}{2}(95)$

$m\angle A = 47.5°$

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(11) endpts of a diameter are $(9,-1)$ & $(1,11)$

$h = 5$, $k = 5$

center = midpoint of dia: $\left(\frac{9+1}{2}, \frac{-1+11}{2}\right) = \left(\frac{10}{2}, \frac{10}{2}\right) = (5,5)$

radius = distance from center to either endpt of diameter

use center $(5,5)$ & endpt $(1,11)$ $\quad r = \sqrt{(5-1)^2 + (11-5)^2}$

$= \sqrt{4^2 + 6^2}$

$r = \sqrt{52}$ $\quad r^2 = 52$

$(x-5)^2 + (y-5)^2 = 52$

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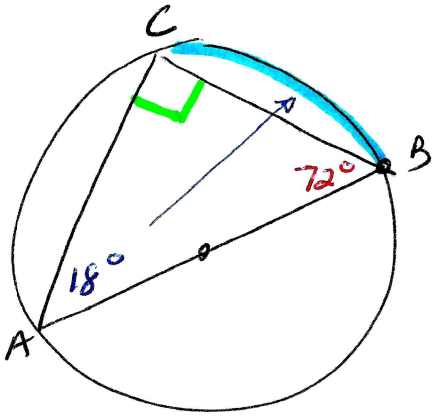
(12)



$m\angle C = 90°$ because it's inscribed in a semicircle

$m\angle A = 180° - 90° - 72° = 18°$

$m\overset{\frown}{CB} = 2 \cdot m\angle A$

$m\overset{\frown}{CB} = 2(18) = 36°$