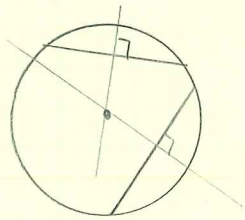
2.



With a compass and ruler, you can draw in two non-parallel chords, find perpendicular bisectors, and the intersection of these is the center

With patty paper, fold the circle in half one way, then another to get the intersection of the diameters which is the center

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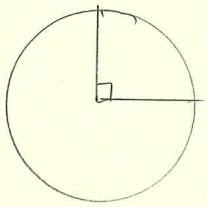
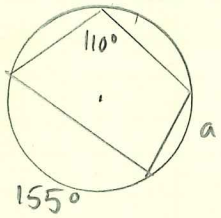
4.



The degree measure of an arc is equal to the central angle that intercepts that arc, is measured in degrees, and ranges from 0° to 360°

The arc length is measured in units of distance (m, ft ...) and is equal to the circumference of the circle x $\frac{\text{arc measure}}{360°}$

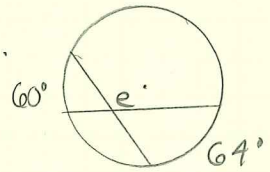
6.



$155° + a = 2(110°)$ (inscribed angle = ½ intercepted arc)

$a = 220° - 155° = \underline{\underline{65° = a}}$

8.



$e = 180° - \frac{1}{2}(60° + 64°)$

$e = 180° - 62°$

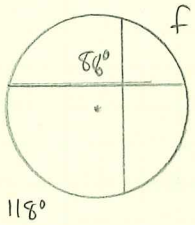
$\underline{\underline{e = 118°}}$

supplementary angle to angle between intersecting chords

angle between intersecting chords = ½ (sum of the intercepted arcs)

same

10.

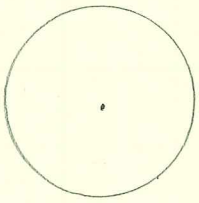


$(88°)2 =$ sum of arcs $= 176°$

$f = 360° - 176° - 118°$

$\underline{\underline{f = 66°}}$

12.



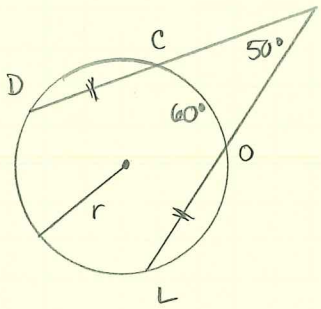
$C = 132\text{ cm}$

$C = \pi d = 132\text{ cm}$

$d = \frac{C}{\pi} = \frac{132\text{ cm}}{\pi}$

$d \approx 42\text{ cm}$

14.



$r = 36$ ft arclength $\overset{\frown}{CD}$ =

$\overset{\frown}{CD} \cong \overset{\frown}{OL}$ congruent chords → congruent arcs

$50° = \frac{1}{2}(\overset{\frown}{DL} - 60°)$ angle between intersecting secants = ½ the difference of the intercepted arcs

$100° = \overset{\frown}{DL} - 60°$

$\overset{\frown}{DL} = 160°$

$\overset{\frown}{DC} = \frac{1}{2}(360° - 160° - 60°)$

$\overset{\frown}{DC} = 70°$

$C = \pi d = 72\pi$ arclength $\overset{\frown}{DC} = 72\pi\left(\frac{70}{360}\right) = 14\pi$ ft $\approx$ 44 ft

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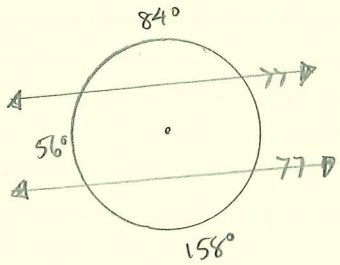
16.



$360° - 84° - 158° - 56° = 62°$

$62° \neq 56°$ yet parallel lines intercept equal arcs, so something is incorrect in the given information

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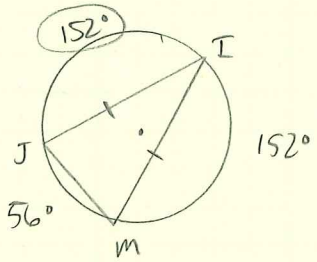
18



$360° - 56° - 152° = 152°$

if the intercepted arcs are equal, then the chords are congruent $\overline{JI} \cong \overline{IM}$

If $\overline{JI} \cong \overline{IM}$ then $\triangle JIM$ is isosceles