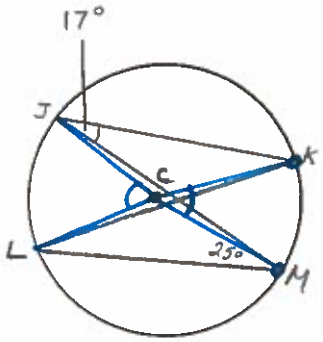
A: Exploring Angles in a Circle Continued

Remember the three rules of angles in a circle!

Examples:

1. If <KJM = 17°, <JML = 25° and point C is the centre of the circle, what is the measure of each of the following angles?



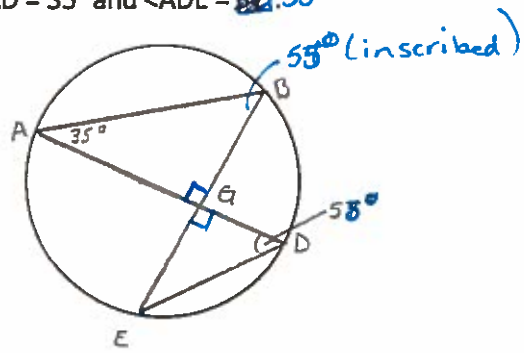
a. <KLM 17° inscribed

b. <JKL 25° inscribed

c. <JCL 50° Central

d. <KCM 34° Central

2. In the diagram, <BAD = 35° and <ADE = [redacted].55°



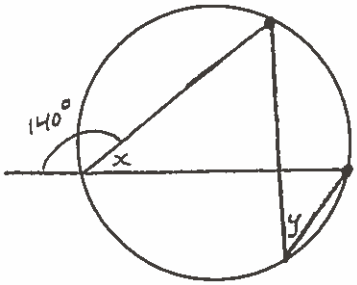
a. What is the measure of <ABE? 57° inscribed

b. What is the measure of <AGB? 180° - 35° - 55° = 90°

c. What type of triangle is ΔABG? Right triangle

d. What is the measure of <DGE? 90° opposite angles

3. Find the unknown angle measures, x and y in each diagram. Where C is labeled, it is the centre of the circle.

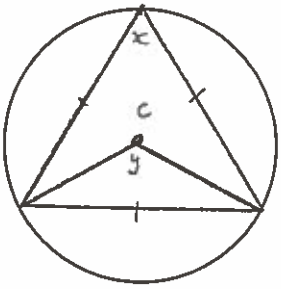


$140° + x = 180°$

$x = 40°$

$x = y$ b/c inscribed

$y = 40°$



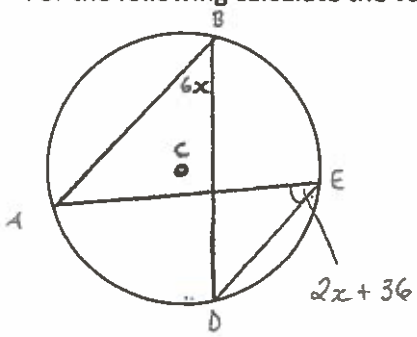
$x = \frac{180°}{3}$ equilateral triangle

$= 60°$

$y = 60 \times 2$ central angle

$= 120°$

4. For the following calculate the value of x.



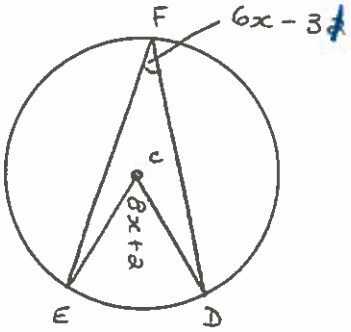
$\angle ABD = \angle AED$ inscribed

$6x = 2x + 36$

$-2x \quad -2x$

$\frac{3x}{3} = \frac{36}{3}$

$x = 12$



$\frac{\angle CED}{2} = \angle EFD$ ∠ central

$\frac{8x+2}{2} = 6x - 3$

$4x + 1 = 6x - 3$

$-4x \quad -4x$

$1 = 2x - 3$

$+3 \quad +3$

$\frac{32}{2} = \frac{2x}{2}$

$16 = x$

Assignment: Page 384 # 12 – 15, 17, 20