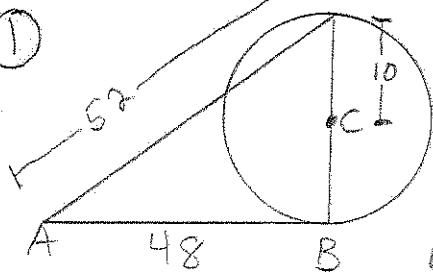


Review Sec. 10.1-10.5

Adv. Geometry

Key

①



$$20^2 + 48^2 \stackrel{?}{=} 52^2$$

$$2704 = 2704$$

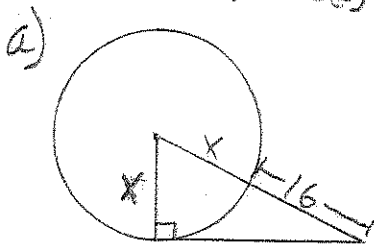
Yes

Is \overline{AB} tangent to $\odot C$?

② Draw two circles with one common tangent.



③ Find the value(s) of x .

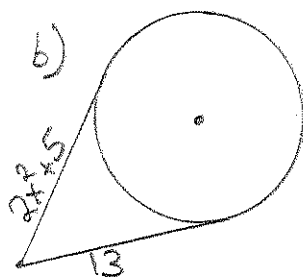


$$x^2 + 24^2 = (x+16)^2$$

$$x^2 + 24^2 = x^2 + 32x + 16^2$$

$$320 = 32x$$

$$10 = x$$

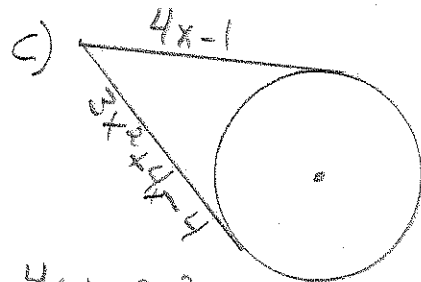


$$2x^2 + 5 = 13$$

$$2x^2 = 8$$

$$x^2 = 4$$

$$x = \pm 2$$

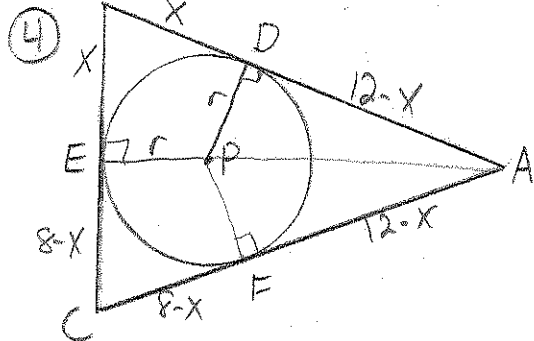


$$4x-1 = 3x^2+4x-4$$

$$0 = 3x^2 - 3$$

$$1 = x^2$$

$$x = \pm 1 \text{ only}$$



$AB=AC=12$; $BC=8$; all three segments are tangent to $\odot P$. What is the radius of $\odot P$?

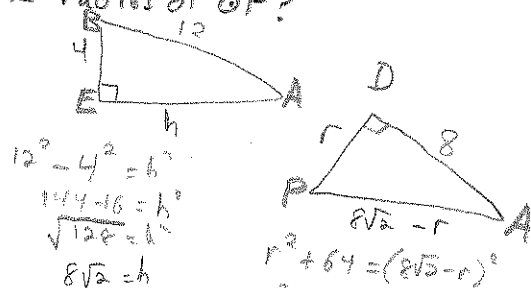
$$8-x + 12-x = 12$$

$$8-2x = 0$$

$$8 = 2x$$

$$4 = x$$

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



$$12^2 - 4^2 = 6^2$$

$$144 - 16 = h^2$$

$$\sqrt{128} = h$$

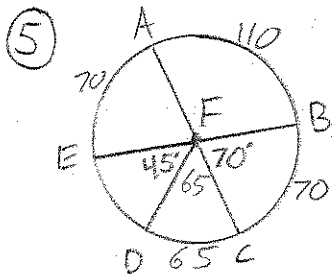
$$8\sqrt{2} = h$$

$$r^2 + 64 = (8\sqrt{2}-r)^2$$

$$r^2 + 64 = 128 - 16\sqrt{2}r + r^2$$

$$16\sqrt{2}r = 64$$

$$16\sqrt{2}r = \frac{64}{\sqrt{2}} = \frac{4\sqrt{2}}{\sqrt{2}} \cdot \sqrt{2}$$

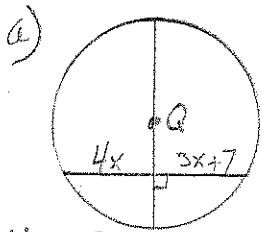


\overline{AC} and \overline{BE} are diameters. Determine whether the arc is a minor or major arc, or a semicircle. Then find its measure.

- $\widehat{BC} = 70^\circ$ minor
- $\widehat{DB} = 135^\circ$ minor
- $\widehat{AD} = 115^\circ$ minor
- $\widehat{ACD} = 245^\circ$ major

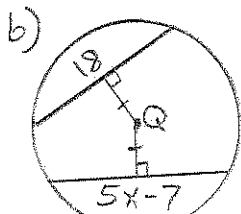
- $\widehat{DC} = 65^\circ$ minor
- $\widehat{AE} = 70^\circ$ minor
- $\widehat{ABC} = \text{Semicircle} = 180^\circ$
- $\widehat{EAC} = 250^\circ$ major

6) Find the value of x in $\odot Q$



$$4x = 3x + 7$$

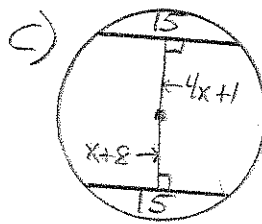
$$x = 7$$



$$5x - 7 = 18$$

$$5x = 25$$

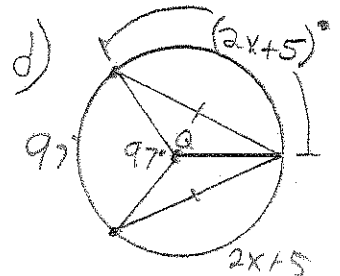
$$x = 5$$



$$4x + 1 = x + 8$$

$$3x = 7$$

$$x = \frac{7}{3}$$



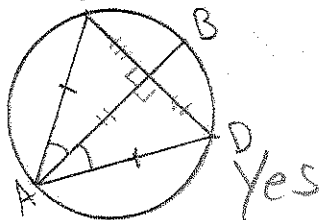
$$360 = 97 + (2x+5) + (2x+5)$$

$$263 = 4x + 10$$

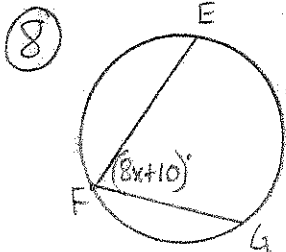
$$253 = 4x$$

$$63\frac{1}{4} = x$$

7) Is \overline{AB} a diameter?



Yes $\cong \Delta$



$$m\widehat{EG} = ?$$

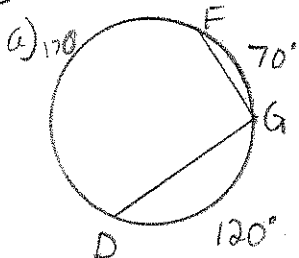
$$8x + 10 = \frac{1}{2}(12x + 40)$$

$$8x + 10 = 6x + 20$$

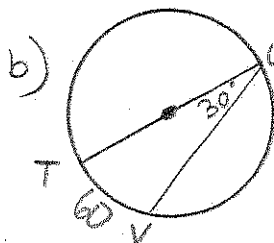
$$2x = 10 \quad x = 5$$

$$m\widehat{EG} = 100^\circ$$

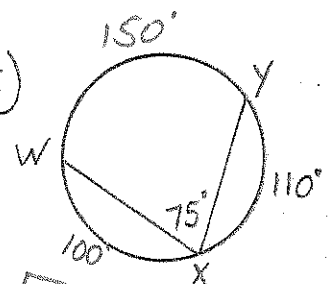
9) Find the indicated measure



$$m\angle G = 85^\circ$$

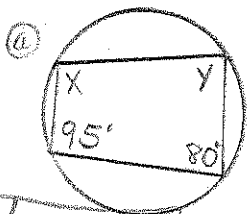


$$m\widehat{VU} = 120^\circ$$



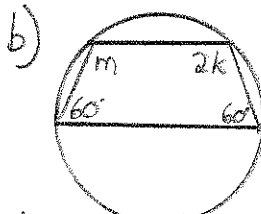
$$m\widehat{WX} = 100^\circ$$

10) Find the values of the variables.



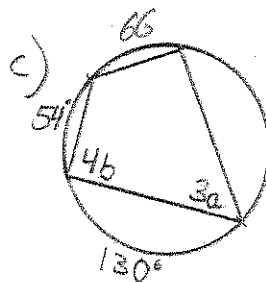
$$X = 100^\circ$$

$$Y = 85^\circ$$



$$m = 120^\circ$$

$$k = 60^\circ$$



$$3a = \frac{1}{2}(100)$$

$$3a = 60$$

$$a = 20$$

$$4b = 176$$

$$b = 44$$

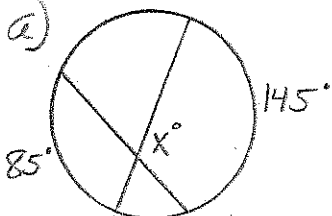
11) All the inscribed angles are congruent. what is the measure of each?



$$\frac{360}{5} = 72$$

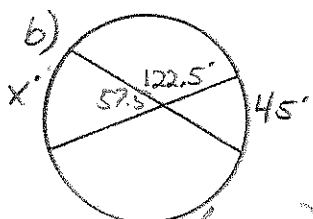
$$\frac{1}{2} 72 = \boxed{36}$$

12) Find the value of X.

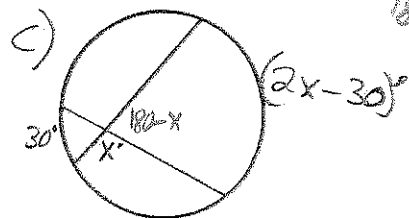


$$X = \frac{1}{2} (85 + 145)$$

$$\frac{1}{2} 230 = \boxed{115}$$



$$57.5 = \frac{1}{2} (X + 45)$$



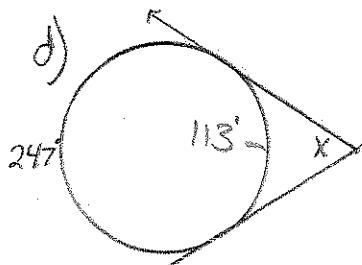
$$180 - X = \frac{1}{2} (30 + 2X - 30)$$

$$180 - X = \frac{1}{2} (2X)$$

$$180 - X = X$$

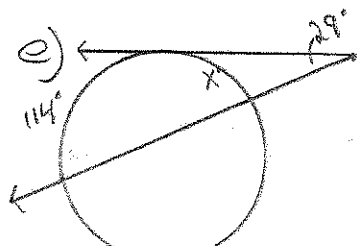
$$180 = 2X$$

$$\boxed{90 = X}$$



$$X = \frac{1}{2} (247 - 113)$$

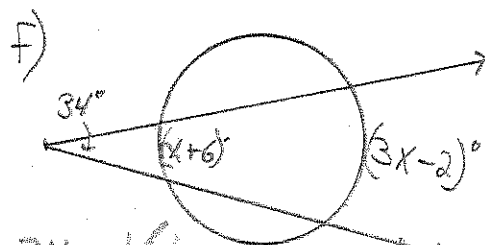
$$\frac{1}{2} 134 = \boxed{67}$$



$$29 = \frac{1}{2} (114 - X)$$

$$58 = 114 - X$$

$$\boxed{X = 56}$$

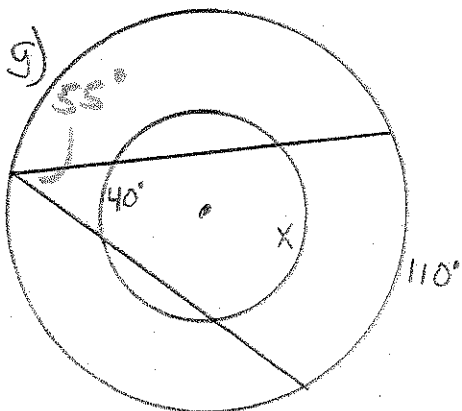


$$34 = \frac{1}{2} ((3X - 2) - (X + 6))$$

$$68 = 2X - 8$$

$$76 = 2X$$

$$\boxed{X = 38}$$

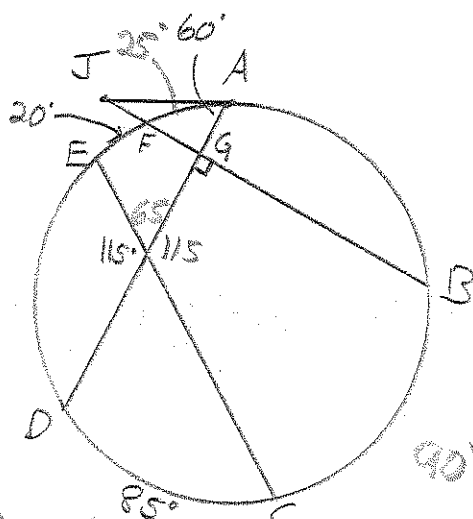


$$55 = \frac{1}{2} (X - 40)$$

$$110 = X - 40$$

$$\boxed{150 = X}$$

13)



Find $m\widehat{AB} + m\widehat{ED}$

$$65 = \frac{1}{2} (\widehat{AE} + \widehat{BC})$$

$$130 = \widehat{AE} + 85$$

$$45 = \widehat{AE}$$

$$\widehat{AF} = 25$$

$$\widehat{AD} = 180$$

$$\widehat{ED} = 180 - 45 = \boxed{135}$$

$$90 = \frac{1}{2} (95 + \widehat{AB})$$

$$180 = 95 + \widehat{AB}$$

$$\boxed{85 = \widehat{AB}}$$

$$\widehat{FD} = 95$$

