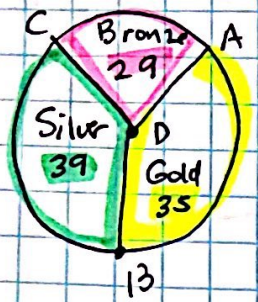
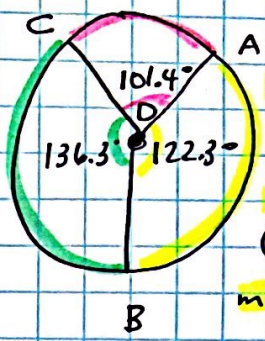
12.2 p.807-809 (19-35 all, 38, 39, 47-49 all)



Bronze $\frac{29}{103} \cdot 360° \approx 101.4°$

Gold $\frac{35}{103} \cdot 360° \approx 122.3°$

Silver $\frac{39}{103} \cdot 360° \approx 136.3°$



(19.) $m\angle AOB = 122.3°$

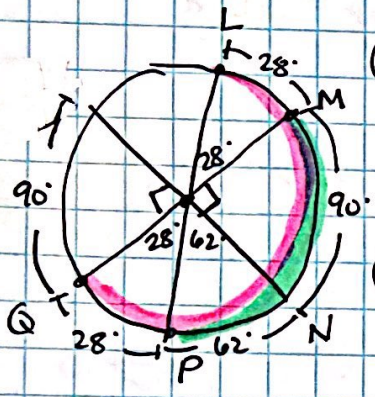
(20.) $m\angle ADC = 101.4°$

(21.) $m\overset{\frown}{AB} = 122.3°$

(22.) $m\overset{\frown}{BC} = 136.3°$

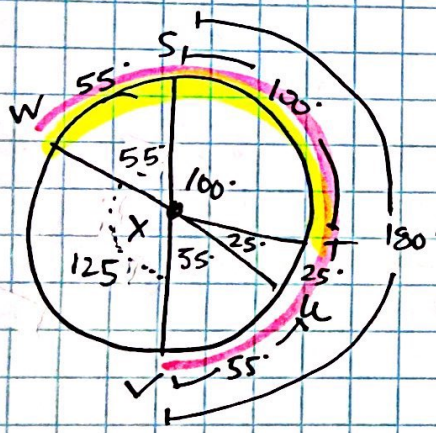
(23) $m\overset{\frown}{ACB} = 101.4 + 136.3 = 237.7°$

(24) $m\overset{\frown}{CAB} = 101.4 + 122.3 = 223.7°$



(25) $m\overset{\frown}{MP} = 90 + 62 = \boxed{152°}$

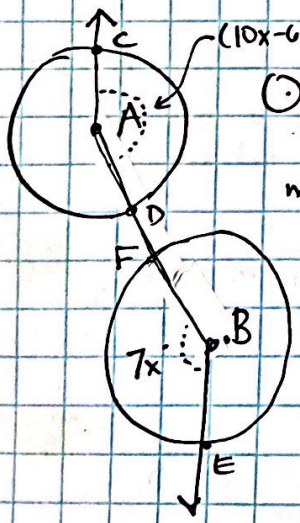
(26) $m\overset{\frown}{QNL} = 28 + 62 + 90 + 28 = \boxed{208°}$



(27.) $m\overset{\frown}{WT} = 155°$

(28.) $m\overset{\frown}{WTV} = 360 - 125$ or $55 + 100 + 25 + 55 = \boxed{235°}$

(29)



$\odot A \cong \odot B$

$\overline{CD} \cong \overline{EF}$

$m\angle CAD = m\angle FBE$

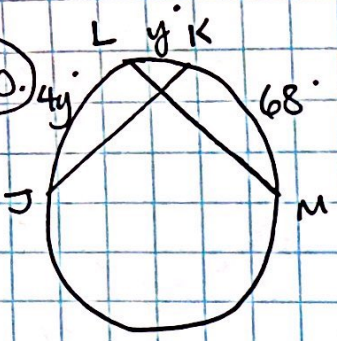
$10x - 63 = 7x$

$3x = 63$

$x = 21$

$m\angle CAD = 10(21) - 63$ or $7(21)$

$\boxed{147°}$

(30.) 

$\overline{JK} \cong \overline{LM}$

so

$\overset{\frown}{JK} \cong \overset{\frown}{LM}$

$4y+y = y+68$

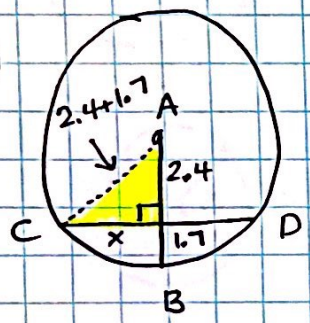
$5y = y+68$

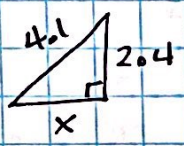
$4y = 68$

$y = 17$

$m\overset{\frown}{JK} = 4y+y$

$= 5y = 5(17) = \boxed{85°}$

(31.) 



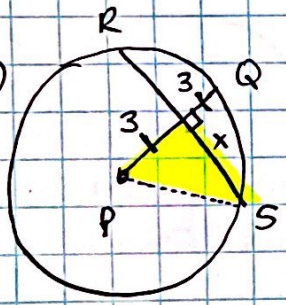
$x^2+(2.4)^2=(4.1)^2$

$x^2 + 5.76 = 16.81$

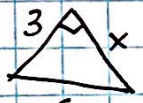
$x^2 = 11.05$

$x \approx 3.3$

$CD = 2(3.3) = \boxed{6.6}$

(32.) 

$PS = 3+3 = 6$



$3^2+x^2=6^2$

$x^2 = 27$

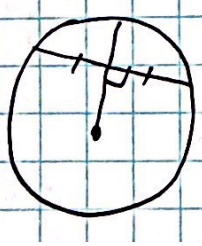
$x \approx 5.2$

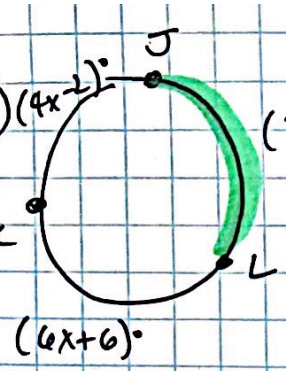
$RS = 2(5.2) = \boxed{10.4}$

(33.) **F**, a minor arc is defined as being less than 180°, so it could measure between 90° and 180°, so the central < could be obtuse

(34.) **F**, minor arc is less than 180°, major larger than 180°, too many possibilities

(35.) **T** Theorem 12-2-3



38. 

$m\overset{\frown}{JL} + m\overset{\frown}{KL} + m\overset{\frown}{KJ} = 360°$

$7x - 18 + 6x + 6 + 4x - 2 = 360$

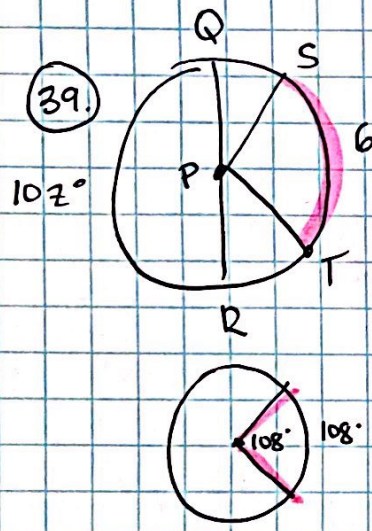
$17x - 14 = 360$

$17x = 374$

$x = 22$

$m\overset{\frown}{JL} = 7(22) - 18$

$= \boxed{136°}$

39. 

QR is a diameter

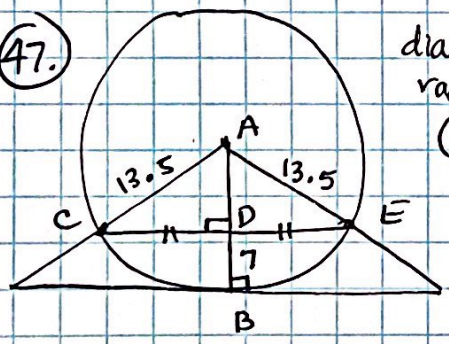
so $m\overset{\frown}{QR} = 180°$

$10z = 180$

$z = 18$

$m\overset{\frown}{ST} = 6z = 6(18) = 108°$

$m\angle SPT = \boxed{108°}$

47. 

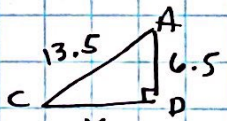
diameter = 27 in

radius = 13.5 in

(a) $AC = AB = AE = \underbrace{}_{\text{all radii}} = \boxed{13.5 \text{ in}}$

if $DB = 7$ in

$AD = 13.5 - 7 = \boxed{6.5 \text{ in}}$



(b) $x^2 + (6.5)^2 = (13.5)^2$

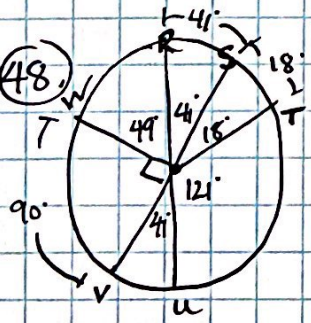
$x^2 + 42.25 = 182.25$

$x^2 = 140$

$x = \sqrt{140} \approx \boxed{11.8 \text{ in}}$

(c) $CD + DE = CE$

$11.8 + 11.8 = \boxed{23.6 \text{ in}}$

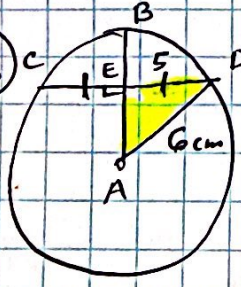
48. 

$m\overset{\frown}{WT} = 49 + 41 + 18 = 108°$

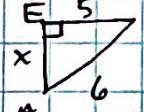
$m\overset{\frown}{UW} = 90 + 41 = 131°$

$m\overset{\frown}{VR} = 90 + 49 = 139°$

$m\overset{\frown}{TV} = 121 + 41 = 162°$ **D.**

49. 

$CD = 10$, $CE = ED = 5$



$x^2 + 5^2 = 6^2$

$x^2 = 11$

$x = \sqrt{11} \approx 3.3$ cm **F.**