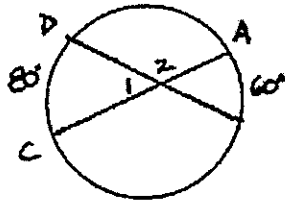


Geometry Honors
Worksheet - Sections 9-5, 6, 7

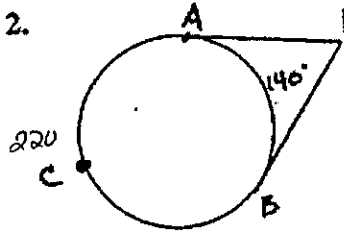
Name Kay

1.



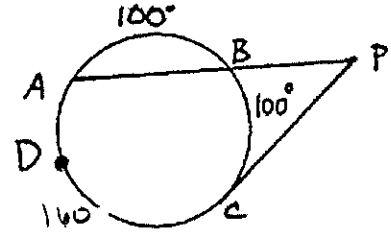
$m\angle 1 = \underline{70} \quad \frac{1}{2}(60+80)$
 $m\angle 2 = \underline{110}$

2.



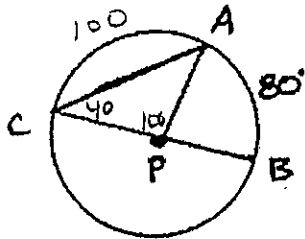
$m\widehat{ACB} = \underline{220}$
 $m\angle P = \underline{40} \quad \frac{1}{2}(220-140) =$

3.



$m\widehat{AC} = \underline{160}$
 $m\angle P = \underline{30} \quad \frac{1}{2}(160-100)$

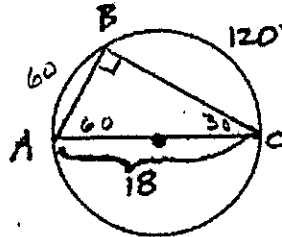
4.



\overline{CB} is a diameter

$m\widehat{AC} = \underline{100}$
 $m\angle APB = \underline{80}$
 $m\angle APC = \underline{100}$
 $m\angle ACB = \underline{40}$
 $m\angle CAP = \underline{40}$

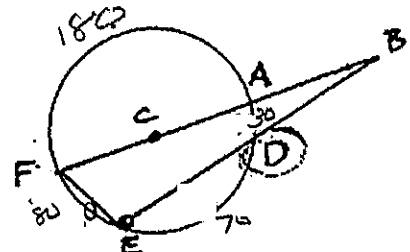
5.



\overline{AC} is a diameter

$m\widehat{AB} = \underline{60}$
 $m\angle B = \underline{90}$
 $m\angle A = \underline{60}$
 $m\angle C = \underline{30}$
 $AB = \underline{18}$
 $BC = \underline{9\sqrt{3}}$

6.

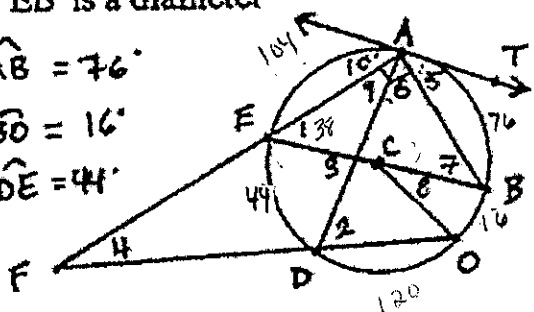


\overline{FA} is a diameter,
 $m\widehat{AD} = 30^\circ$
 $m\widehat{DE} = 70^\circ$

$m\angle B = \underline{25} \quad \frac{1}{2}(80-30)$
 $m\angle FED = \underline{105} \quad \frac{1}{2}(180+30)$
 $m\angle AED = \underline{330} \quad (360-30)$

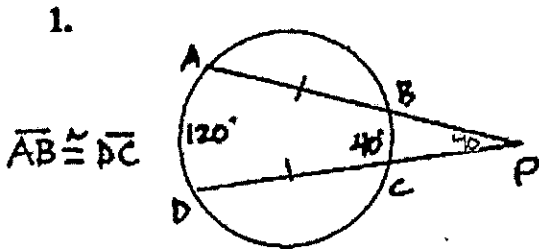
7. \overline{EB} is a diameter

$m\widehat{AB} = 76^\circ$
 $m\widehat{BD} = 16^\circ$
 $m\widehat{DE} = 44^\circ$



$\frac{1}{2}(44+76)$

$m\angle 1 = \underline{38}$
 $m\angle 2 = \underline{46} \quad 92 \div 2$
 $m\angle 3 = \underline{60}$
 $m\angle 4 = \underline{24} \quad \frac{1}{2}(42-44)$
 $m\angle 5 = \underline{38}$
 $m\angle 6 = \underline{68} \quad 136 \div 2$
 $m\angle 7 = \underline{52}$
 $m\angle 8 = \underline{16}$
 $m\angle 9 = \underline{22}$
 $m\angle 10 = \underline{52}$

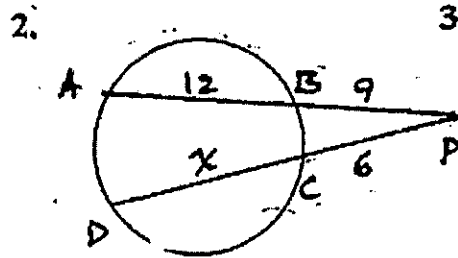


$\overline{AB} \cong \overline{DC}$

$m\angle P = \underline{40}$

$m\widehat{AB} = \underline{100}$ $(\frac{360-160}{2})$

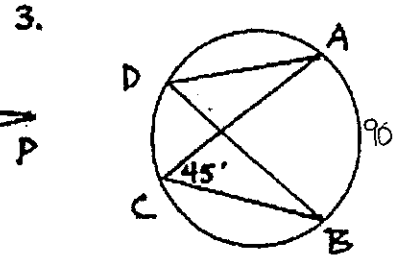
$m\widehat{DC} = \underline{100}$



$DC = \underline{25.5}$

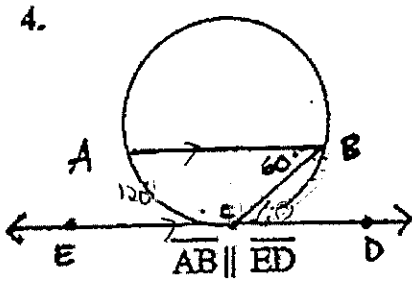
$DP = \underline{31.5}$

$9 \cdot 21 = 6(x+6)$
 $189 = 6x + 36$



$m\widehat{AB} = \underline{90}$

$m\angle ADB = \underline{45}$



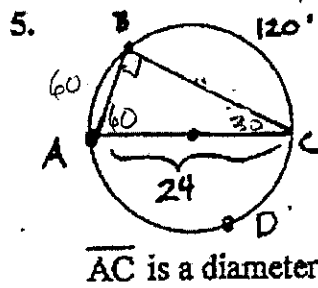
$m\widehat{BC} = \underline{120}$

$m\angle BCD = \underline{60}$

$m\angle BCE = \underline{120}$

$m\widehat{AC} = \underline{120}$

$m\widehat{CAB} = \underline{240}$



$m\widehat{AB} = \underline{60}$

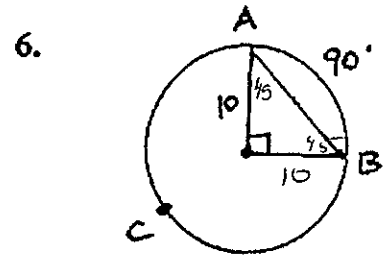
$m\widehat{ADC} = \underline{180}$

$m\angle A = \underline{60}$

$m\angle C = \underline{30}$

$AB = \underline{12}$

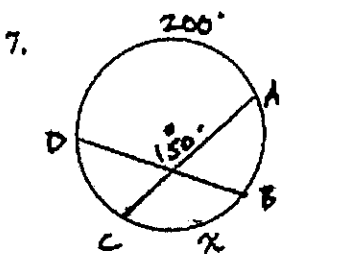
$BC = \underline{12\sqrt{3}}$



$m\angle A = \underline{45}$

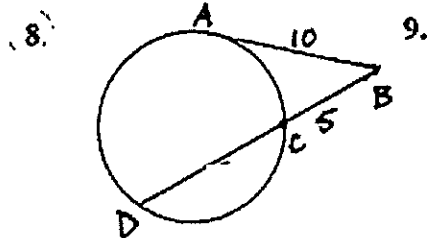
$AB = \underline{10\sqrt{2}}$

$m\widehat{ACB} = \underline{270}$



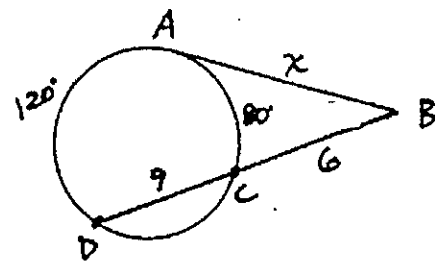
$m\widehat{BC} = \underline{100}$

$150 = \frac{1}{2}(200+x)$



$DB = \underline{20}$

$5 \cdot x = 10^2$



$AB = \underline{3\sqrt{10}}$ $m\angle B = \underline{20}$

$x^2 = 6 \cdot 15$
 $x = \sqrt{90}$

For examples #1 – 8, see diagram on the right. \overline{AC} tangents.

1. $m\widehat{AB} = 60$; $m\angle CBF = \underline{60}$ $120/2$

2. $m\widehat{AB} = 60$; $m\angle BCA = \underline{30}$

3. $m\widehat{AB} = 60$; $m\angle BEA = \underline{120}$ $180 - (30 + 30)$

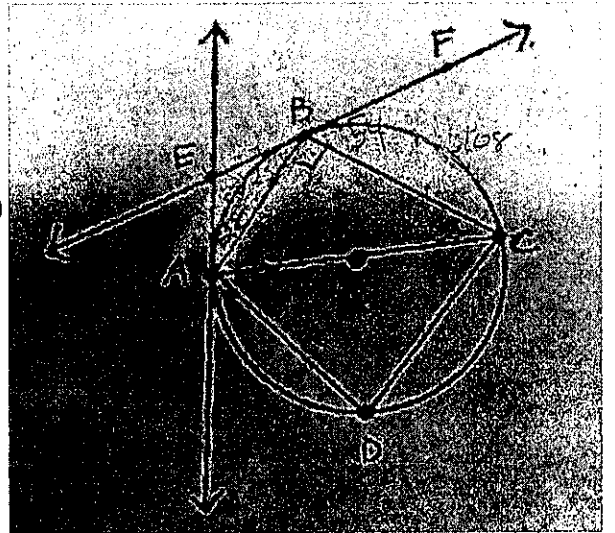
4. $m\widehat{BC} = 80$; $m\angle BAC = \underline{40}$

5. $m\widehat{BC} = 110$; $m\angle CBE = \underline{125}$ $180 - 55$

6. $m\angle BAE = 28$; $m\angle ACB = \underline{28}$

7. $m\angle CBF = 54$; $m\angle BAE = \underline{36}$

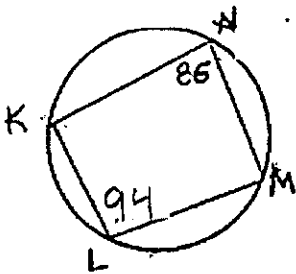
8. $m\angle BAD = 120$; $m\widehat{BAD} = \underline{120}$ $-120 \cdot 2 = 240$
 $-360 - 240 =$



9. $m\widehat{KNM} = \underline{188}$

10. In circle centered at S, if $m\widehat{RV} = 105$, then $m\angle U = \underline{15}$

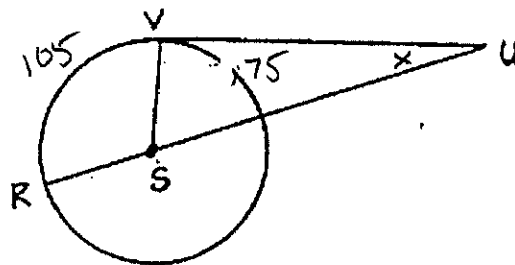
11. If $m\widehat{EG} = 155$ and $m\widehat{FH} = 45$ then $m\angle 1 = \underline{125}$



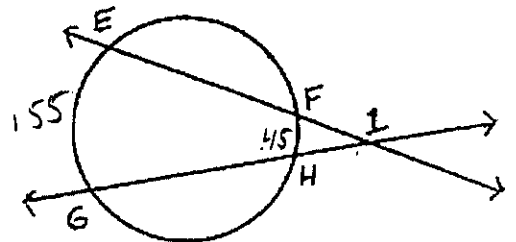
$86 \cdot 2 = 172$

$360 - 172 = \boxed{188}$
OR

$94 \cdot 2 =$



$x = \frac{1}{2}(105 - 75)$



$x = \frac{1}{2}(155 - 45)$

$x = 55$

$m\angle 1 = 180 - 55$

For examples #12 – 15, see diagram on the right. ABCD is inscribed in circle centered at P.

12. $m\angle DAB = 94$; $m\angle DCB = \underline{86}$

13. $m\angle ADC = 65$; $m\angle 7 = 70$; $m\angle 4 = \underline{45}$ $180 - 65 = 115$
 $115 - 70 =$

14. $m\widehat{AD} = 80$, $m\widehat{DC} = 90$, $m\angle ADB = 60$; $m\angle 2 = \underline{35}$

$90 + 80 = 170$ $\frac{170}{2} = m\angle ADC$ $m\angle 2 = 95 - 60$
 $360 - 170 = 190$ $\frac{190}{2} = m\angle AOC$

15. $m\angle DAB = 6x + 12$; $m\angle DCB = 5x + 36$; $m\angle DAB = \underline{84}$

$6x + 12 + 5x + 36 = 180$ $6(12) + 12$
 $11x = 132$
 $x = 12$

For examples #16 – 21, see diagram on right. \overline{MN} and \overline{MR} are tangents and \overline{KN} is a diameter of circle centered at P.

$m\widehat{RL} = 45$, $m\widehat{ON} = 140$, $m\widehat{KR} = 55$ $m\widehat{LQ} = 20$

16. $m\angle KSO = \underline{50}$

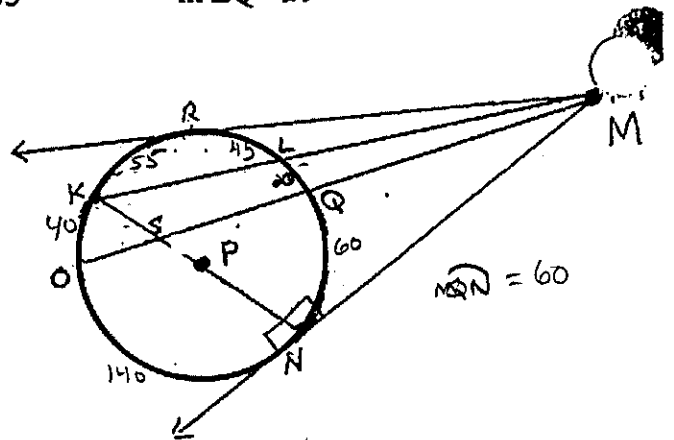
17. $m\angle KMO = \underline{10}$

18. $m\angle OMN = \underline{40}$

19. $m\angle MKN = \underline{40}$

20. $m\angle KNM = \underline{90}$

21. $m\angle RMN = \underline{55}$ $(235 - 125) \div 2$



22. In circle centered at O, $m\widehat{DC} = 10$; $m\widehat{AB} = x^2 - 5x$; $m\angle DEC = 3x - 7$.

$m\angle DEC = \underline{17}$ $3x - 7 = \frac{10 + x^2 - 5x}{2}$
 $6x - 14 = 10 + x^2 - 5x$
 $0 = 24 + x^2 - 11x$
 $x^2 - 11x + 24 = 0$
 $(x - 8)(x - 3) = 0$

