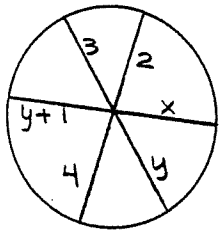
Geometry (H)
Chapter – Circle review

Name: KEY

1. Find x and y.



$2(4) = x(y+1)$ → $8 = xy + x$

$2(4) = 3y$

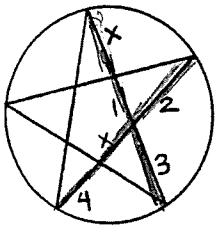
$\frac{8}{3} = y$

$8 = x(y+1)$

$8 = x\left(\frac{11}{3}\right)$

$x = 8 \div \frac{11}{3} = \frac{24}{11}$

2. Find x.

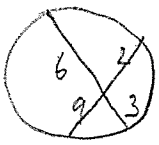


$2(x+4) = 3(x+1)$

$2x + 8 = 3x + 3$

$5 = x$

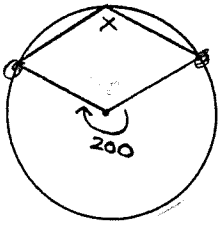
ok



$9(2) = 6(3)$ ✓

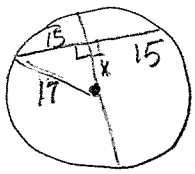
3. Find x.

$x = 100$



4. Find the distance from the center of the circle to a chord 30 m long if the diameter of the circle is 34 m.

$\frac{34}{2} = 17 = r$



$15^2 + x^2 = 17^2$

$x^2 = 64$

$x = 8$

distance = 8 m

5. Find the measure of all numbered angles and indicated arcs.

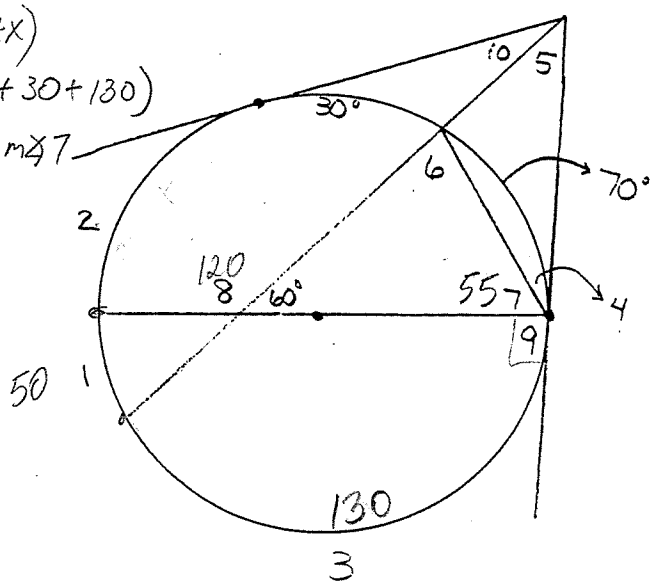
1. 50°
2. 80
3. 130
4. 35
5. 30
6. 65
7. 55
8. 120
9. 90
10. 50

① $60 = \frac{1}{2}(70 + x)$

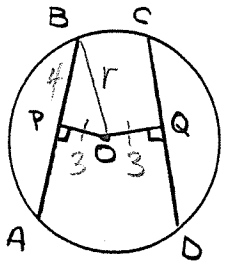
② $120 = \frac{1}{2}(x + 30 + 130)$

⑦ $\frac{1}{2}(30 + 80) = m\angle 7$

$\frac{1}{2}(130 - 30)$



6. PB = 3x – 17, CD = 15 – x, OQ = OP = 3. Find AB. Find the radius.



$2(3x-17) = 15-x$

$6x - 34 = 15 - x$

$7x = 49$

$x = 7$

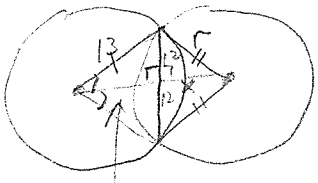
$PB = 3(7) - 17$

$PB = 4$

$AB = 8$

radius = 5

7. Two circles intersect and have a common chord 24 cm long. The centers of the circles are 21 cm apart. The radius of one circle is 13 cm. Find the radius of the other circle.



$21 - x = 5$

ck

$5^2 + 12^2 = 13^2$ ✓

$(21-x)^2 + 12^2 = 13^2$

$441 - 42x + x^2 + 144 = 169$

$x^2 - 42x + 585 = 169$

$x^2 - 42x + 416 = 0$

$(x-16)(x-26) = 0$

$x = 16$, $x = 26$ OMIT.

$x^2 + 12^2 = r^2$

$16^2 + 12^2 = r^2$

$256 + 144 = r^2$

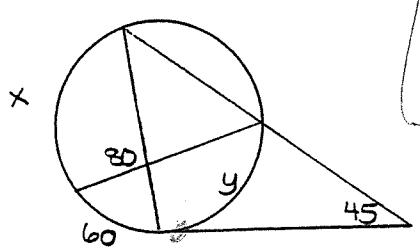
$400 = r^2$

$20 = r$

radius = 20

8. Find x and y.

a.



$80 = \frac{1}{2}(x+y) \rightarrow 160 = x + y$

$45 = \frac{1}{2}(x+60-y) \rightarrow 30 = x - y$

$190 = 2x$

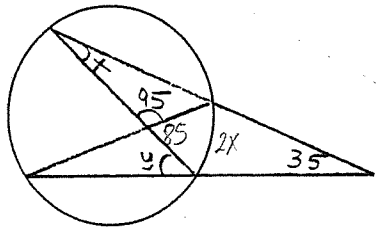
$95 = x$

$80 = \frac{1}{2}(95+y)$

$160 = 95 + y$

$65 = y$

b.



$35 = \frac{1}{2}(2y - 2x) \rightarrow 70 = 2y - 2x$

$85 = \frac{1}{2}(2y + 2x) \rightarrow 170 = 2y + 2x$

$240 = 4y$

$60 = y$

$120 = 2y$

$70 = 2(60) - 2x$

$70 - 120 = -2x$

$-50 = -2x$

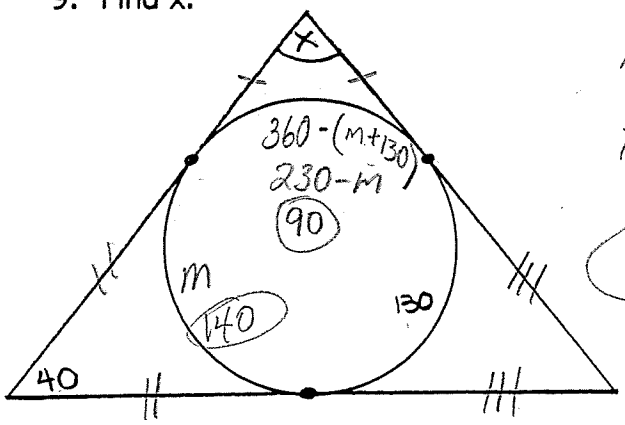
$25 = x$

ck

$35 = \frac{1}{2}(120 - 50)$

$35 = 35$

9. Find x.



$40 = \frac{1}{2}(360 - m - m) \rightarrow 80 = 360 - 2m$

$140 = m$

$x = \frac{1}{2}(m + 130 - (230 - m))$

$x = \frac{1}{2}(270 - 90)$

$x = 90$

10. In the circle at the right, m $\overset{X}{\overset{\frown}{AD}}$ = 3(m $\overset{\frown}{AB}$), m $\overset{\frown}{AC}$ = 90, m $\overset{\frown}{DC}$ = 3(m $\overset{Y}{\overset{\frown}{BC}}$) and m $\overset{\frown}{BCD}$ = 5(m $\overset{\frown}{AB}$). Find each measure.

a. m $\overset{\frown}{AB}$ = 40

b. m $\overset{\frown}{BC}$ = 50

c. m $\overset{\frown}{CD}$ = 150

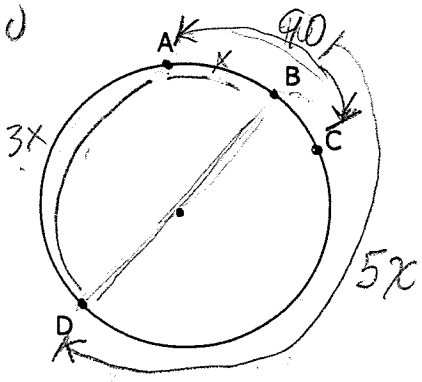
d. m $\overset{\frown}{AD}$ = 120

$3x + x + 5x = 360$

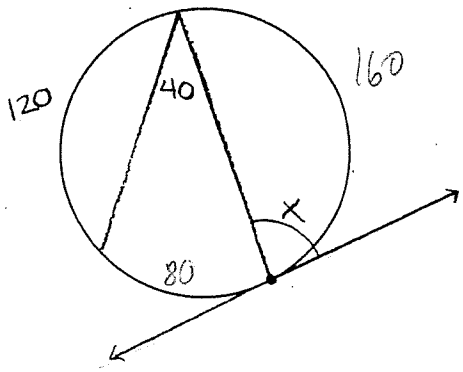
$9x = 360$

$x = 40$

BCD = 5x



11. Find x.



$x = 80$