**Accelerated Coordinate Algebra**   Name___Key___

Section 30.1—30.6 Review-DAY 2

In the diagram, $\overline{AB}$ is tangent to $\odot C$ at point B. Find the radius r of $\odot C$.
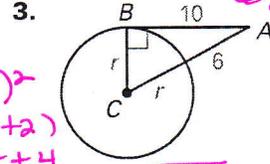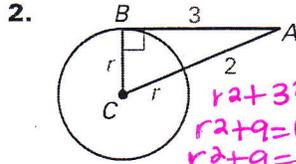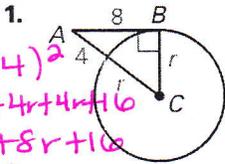
$r^2 + 10^2 = (r+6)^2$
$r^2 + 100 = r^2 + 12r + 36$
$\cancel{-r^2} \quad \cancel{-r^2}$
$100 = 12r + 36$
$64 = 12r$
$\boxed{\dfrac{16}{3} = r}$

1.
$r^2 + 8^2 = (r+4)^2$
$r^2 + 64 = r^2 + 4r + 4r + 16$
$r^2 + 64 = r^2 + 8r + 16$
$64 = 8r + 16$
$8r = 48$
$\boxed{r = 6}$

2.
$r^2 + 3^2 = (r+2)^2$
$r^2 + 9 = (r+2)(r+2)$
$r^2 + 9 = r^2 + 4r + 4$
$-r^2 \qquad -r^2$
$9 = 4r + 4 \quad 5 = 4r \boxed{r = \frac{5}{4}}$

3.
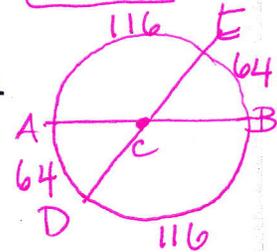
Two diameters of $\odot C$ are $\overline{AB}$ and $\overline{DE}$. Find the given arc measure if $m\widehat{AE} = 116°$.

4. $m\widehat{AD} = \boxed{64}$

5. $m\widehat{ADE}$ $\dfrac{360}{-116}$ $\boxed{244}$

6. $m\widehat{AEB}$ $\boxed{180}$

7. $m\widehat{BDE}$ $360-64$ $\boxed{296}$

Find the given measure.

8. $BD = \boxed{14}$

9. $m\widehat{JK} = \boxed{56}$ 124

10. $m\widehat{MN} = \boxed{121}$ 121 59
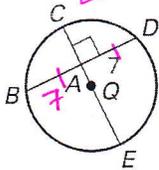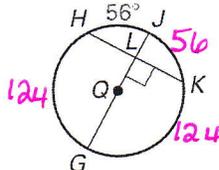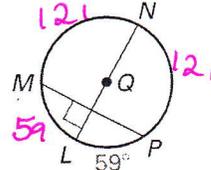
Find the indicated measure in $\odot M$.

11. $m\angle PNO = 33.5$

12. $m\angle QNP = 31.5$

**13.** $m\widehat{PQ} = 63$

**14.** $m\widehat{QO} = 63 + 67 = 130$

15. $m\angle NMO = 113$

16. $m\widehat{NOP} = 180$

17. $m\angle QMP = 63$

18. $m\widehat{OQN} = 360 - 113 = 247$

117° N 31.5 33.5 113 Q M 68.5 64.5 63 O P 67°
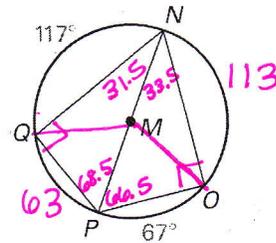
Find the value of x.
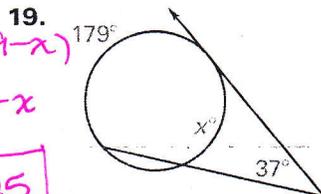
19.
$37 = \frac{1}{2}(179 - x)$
$74 = 179 - x$
$-105 = -x$
$\boxed{x = 105}$
179° $x°$ 37°

20.
$x \cdot 10 = 20 \cdot 12$
$10x = 240$
$\boxed{x = 24}$
x 10 8 12 20

21.
$x^2 = 7 \cdot 4$
$x^2 = 28$
$\boxed{x = 2\sqrt{7}}$
x 4 3 7
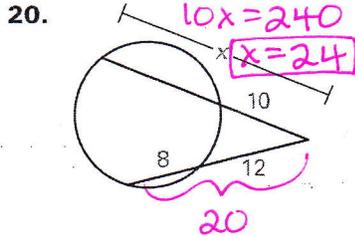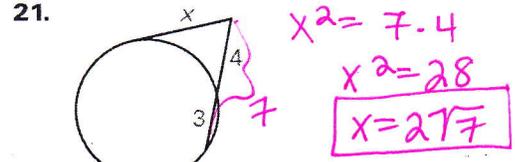
Find the value of x.
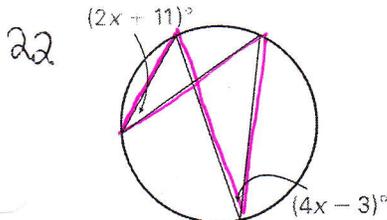
22.
$(2x + 11)°$ $(4x - 3)°$
$2x + 11 = 4x - 3$
$-2x + 3 \quad -2x + 3$
$14 = 2x$
$\boxed{x = 7}$
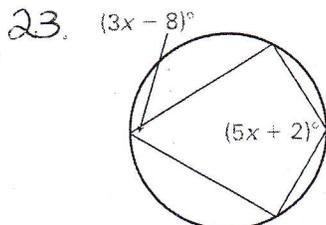
23.
$(3x - 8)°$ $(5x + 2)°$
$5x + 2 + 3x - 8 = 180$
$8x - 6 = 180$
$8x = 186$
$x = 23.25$
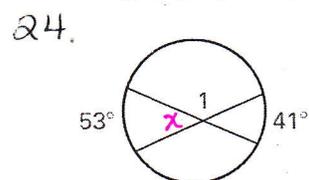
24. Find $m\angle 1$
$53°$ 1 x $41°$
$m\angle 1 = 180 - 47$
$\boxed{m\angle 1 = 133}$
$x = \frac{1}{2}(53 + 41)$
$x = \frac{1}{2}(94)$
$x = 47$