Name **key**   Date _____

# 30.3 **Practice** – Properties of Chords

Find the chord length.

1. $AB = 9$

155°

B C

9

A D

155°

2. $FG = 6$

E   F

Q

6

G

3. $KM = 8$

K   Q   L

5

J   3   M
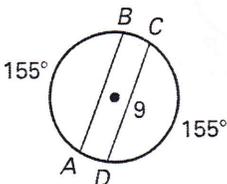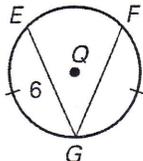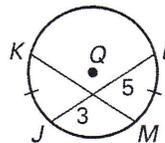
Find the arc length.

4. $m\widehat{XY} = 105°$

Y

X   Q   Z

W   105°

5. $m\widehat{TU} = 85°$

S   T

85°   Q   85°

85°

R   U

6. $m\widehat{AB} = 130°$

100°

B   C

Q

130°   130°

A
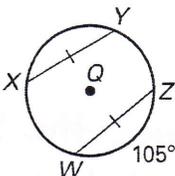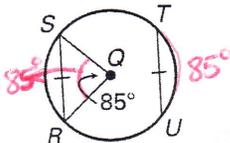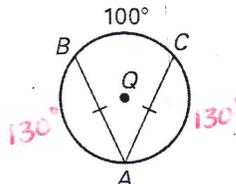
Tell whether $\overline{QS}$ is a diameter of the circle. If not, explain why.

These ∠s are ≅ and they have to add to 180°, so they each must be 90° making $\overline{QS} \perp$ to $\overline{TR}$.

7.

Q

P   R

S

yes

8.

Q

P   19   R

S   20
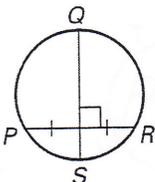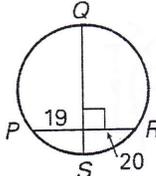
no, since $\overline{QS}$ is ⊥ to $\overline{PR}$, if it's a diameter it has to bisect $\overline{PR}$ (but 19 ≠ 20)

9.

Q   R

9

T   9

S

yes

Tell whether the measures are equal.

10. LK and KN

M   N

L   K

P
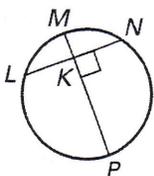
no, not based on the given info (we don't know if $\overline{MP}$ is a diameter nor do we know if $\overline{LK} \cong \overline{KN}$)

11. $m\widehat{ST}$ and $m\widehat{RS}$

T

S   Q   U

R
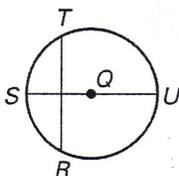
no, not enough info (we don't know if $\overline{SU}$ is ⊥ to $\overline{TR}$)

12. $m\widehat{BC}$ and $m\widehat{CD}$

C   D

B   Q

E
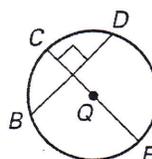
yes

Find the given measure.

13. $BD = 10$
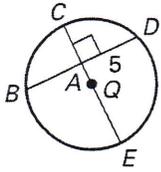
**14.** $m\widehat{JK} = 55°$
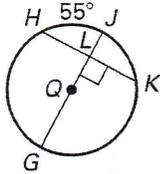
15. $m\widehat{MN} = 119°$
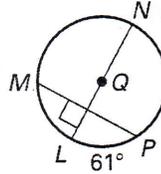
**Tell whether the lengths are equal.**

16. CD and EF
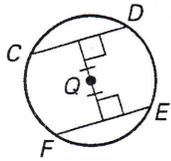
yes

**17.** JK and LM
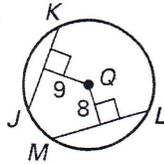
no, $9 \neq 8$

18. TQ and UQ
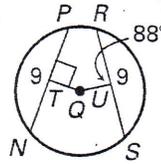
no, because the 88° angle would need to be 90°

Find the given measure.

**19.** $AQ = 7$
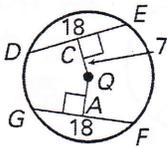
20. $HJ = 7$
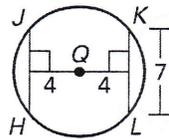
21. $m\widehat{TU} = 95°$
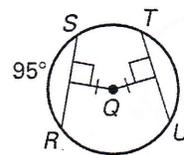
Find the value of x.

22.

$x = 3$

23.

$x = 7$

24.

$x = 4$