Name: _____

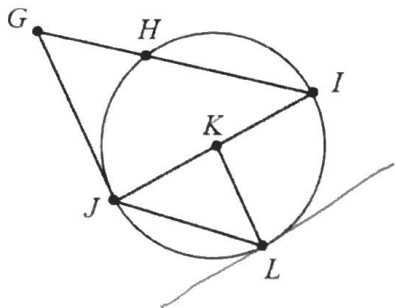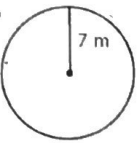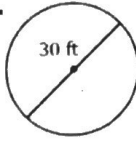**1.** Give an example of each circle part using the diagram below.

a) Center: ___K___

b) Radius: $\overline{KI}, \overline{KL}, \overline{FJ}$

c) Chord: $\overline{JL}, \overline{HI}, \overline{JI}$

d) Diameter: $\overline{JI}$

e) Secant: $\overline{GI}$

f) Tangent: $\overline{GJ}$

g) Point of Tangency: ___J___

h) Minor Arc: $\overparen{IL}, \overparen{HI}$

i) Major Arc: $\overparen{HIL}, \overparen{HLI}$

j) Semicircle: $\overparen{JLI}, \overparen{JHI}$

k) Central Angle: $\angle JKL$

l) Inscribed Angle: $\angle HIJ$

Directions: Find the area and circumference of each circle below.

2.

7 m

$$A = 49\pi \ m^2$$
$$A \approx 153.94 \ m^2$$

$$C = 14\pi \ m$$
$$C \approx 43.98 \ m$$

3.

30 ft

$$A = 225\pi$$
$$A \approx 706.86 ft^2$$

$$C = 30\pi \ ft$$
$$C \approx 94.25 \ ft$$

Directions: Use the area and circumference formulas to find the radius or diameter.

6. Find the radius of a circle with an area of 615.75 square kilometers.

$$r = 14 \ km$$

7. Find the diameter of a circle with a circumference of 15.71 yards.

$$d = 5 \ yd$$

8. Find the diameter of a circle with an area of 415.48 square inches.

$$d = 23 \ in$$

9. Find the radius of a circle with a circumference of 125.66 feet.

$$r = 20 \ ft$$

Name: _____

Directions: Use the information given to find the area or circumference.

12. Find the area of a circle with a circumference of 11π feet.	**13.** Find the circumference of a circle with an area of 676π square millimeters.

$A = 30.25\pi \; ft^2$
$A \approx 95.03 \; ft^2$

$C = 52\pi \; mm$
$C \approx 163.36 \; mm$

14. Find the circumference of a circle with an area of 1,134.11 square meters.	**15.** Find the area of a circle with a circumference of 53.41 inches.

$C = 38\pi \; m$
$C \approx 119.38 \; m$

$A = 72.25\pi \; in^2$
$A \approx 226.98 \; in^2$

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1. Access the following link https://www.geogebra.org/m/UNNpwR22 on your phone, computer, or tablet.
2. Click on the red box called "Show Central Angle and it's Measure". Notice that you can click and drag the points to change their measure.
3. Now click the blue box called "Show Arc and it's Measure". Click and drag points as much as you want and when you are done exploring answer the question below.

> **Q:** What relationship exists between the measure of the central angle (red angle) and the measure of the intercepted arc (blue arc)?
>
> They have the same measure.

4. Click out of the red box and into the green box called "Show Inscribed Angle and it's Measure". Click and drag points as much as you want and when you are done exploring answer the question below.

> **Q:** What relationship exists between the measure of the inscribed angle (green angle) and the measure of the intercepted arc (blue arc)?
>
> The angle is ½ the measure of the arc.