9.4 PRACTICE
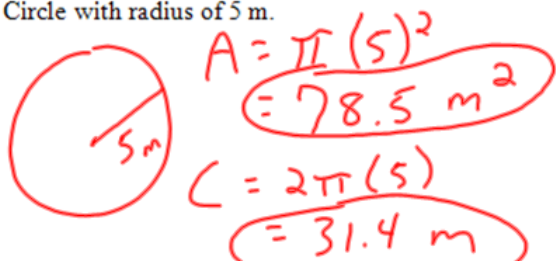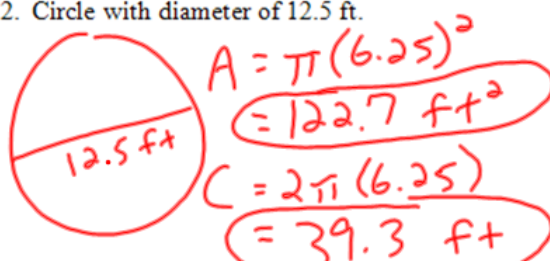
Draw the picture. Find the area and circumference. Label your answer! Round to the nearest tenth.

1. Circle with radius of 5 m.
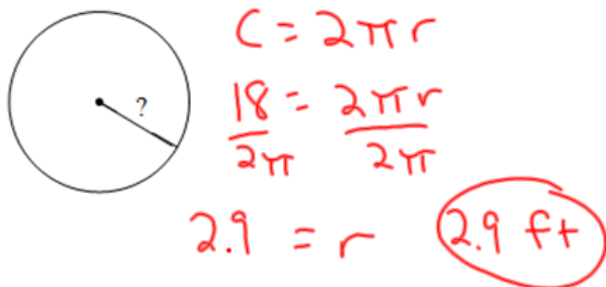
$A = \pi (5)^2$
$= 78.5 \text{ m}^2$

$C = 2\pi (5)$
$= 31.4 \text{ m}$

2. Circle with diameter of 12.5 ft.

12.5 ft

$A = \pi (6.25)^2$
$= 122.7 \text{ ft}^2$

$C = 2\pi (6.25)$
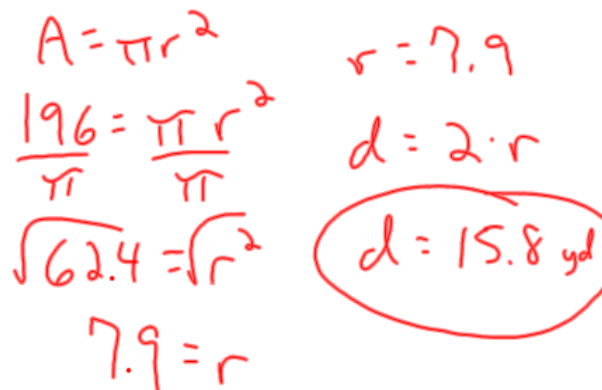$= 39.3 \text{ ft}$

Find the missing part of the circle. Label your answer! Round to the nearest tenth.

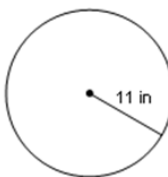**3. Find the radius given a circle with circumference 18 ft.**

?

$C = 2\pi r$

$\dfrac{18}{2\pi} = \dfrac{2\pi r}{2\pi}$

$2.9 = r$ ⟨2.9 ft⟩

4. Find the diameter given a circle with area 196 yd²

$A = \pi r^2$

$\dfrac{196}{\pi} = \dfrac{\pi r^2}{\pi}$

$\sqrt{62.4} = \sqrt{r^2}$

$7.9 = r$

$r = 7.9$

$d = 2 \cdot r$

$d = 15.8 \text{ yd}$

Find the circumference of each. Label your answer! Round to the nearest tenth.
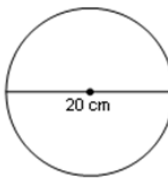
5.

11 in

$C = 2\pi (11)$
69.1 in

6. Circle with area of 16.6 cm²

$A = \pi r^2$

$\dfrac{16.6}{\pi} = \dfrac{\pi r^2}{\pi}$

$\sqrt{5.3} = \sqrt{r^2}$

$2.3 = r$

$\rightarrow C = 2\pi (2.3)$
14.4 cm

Find the area of each. Label your answer! Express your answer in terms of pi.
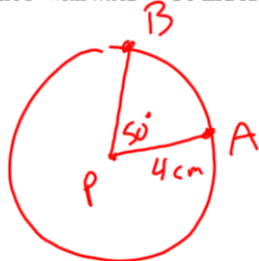
7.

20 cm

$A = \pi (10)^2$
$100\pi \text{ cm}^2$

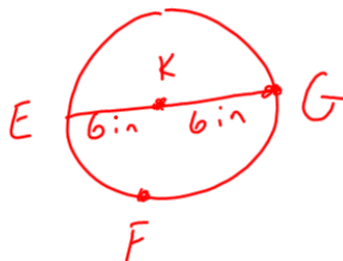**8. Circle with circumference of 24π cm**

$C = 24\pi$

$C = 2\pi r$

$\dfrac{24\pi}{2\pi} = \dfrac{2\pi r}{2\pi}$

$12 = r$
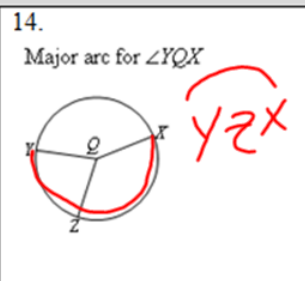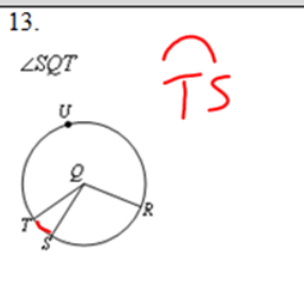
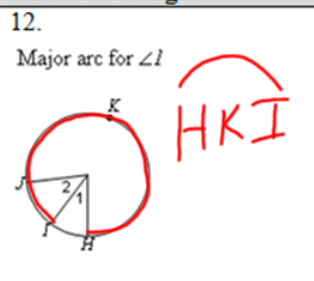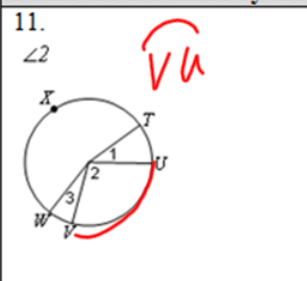$A = \pi (12)^2$
$144\pi \text{ cm}^2$

Draw the following.

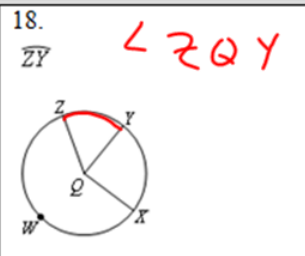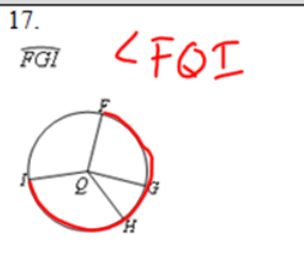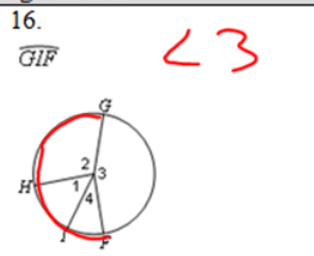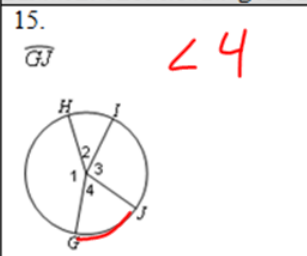**9. Circle P with m$\overarc{AB}$ = 50 and radius of 4 cm.**

B

50°

P   4cm   A

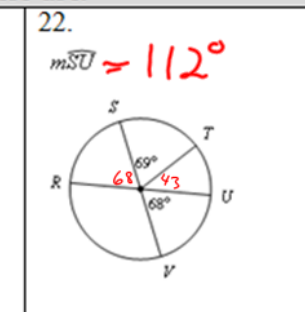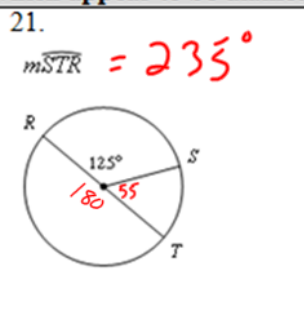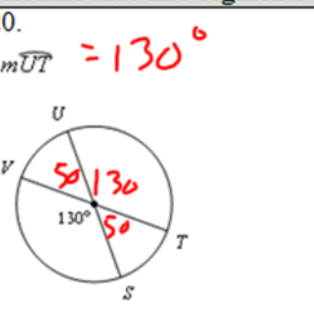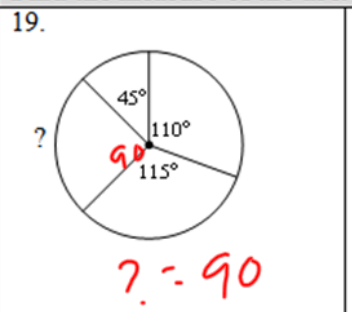**10. Circle K with semicircle $\overarc{EFG}$ and diameter of 12 in.**

K

E   6in   6in   G

F

Name the arc made by the given central angle.
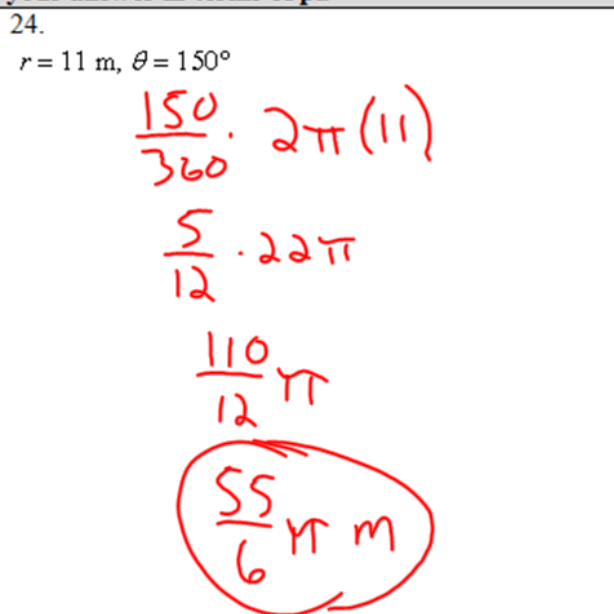
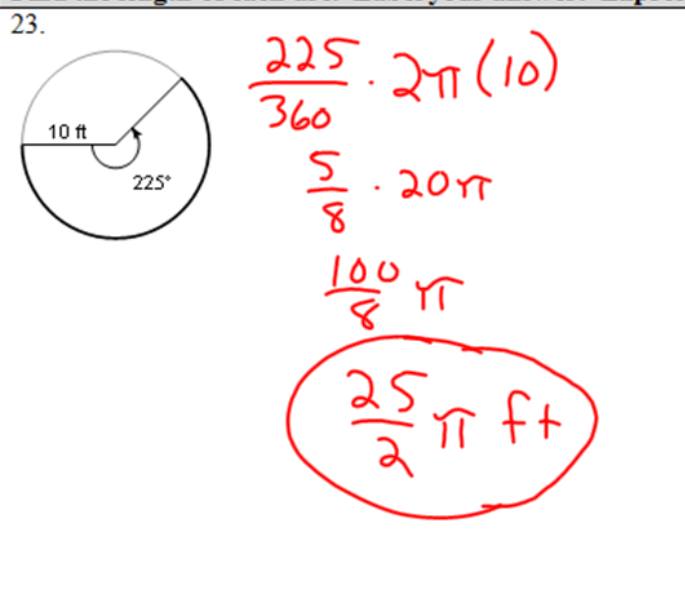| 11.	12.	13.	14.
∠2 $\overset{\frown}{VU}$	Major arc for ∠1 $\overset{\frown}{HKI}$	∠SQT $\overset{\frown}{TS}$	Major arc for ∠YQX $\overset{\frown}{YZX}$

Name the central angle of the given arc.

15.	16.	17.	18.
$\overset{\frown}{GJ}$ ∠4	$\overset{\frown}{GIF}$ ∠3	$\overset{\frown}{FGI}$ ∠FQI	$\overset{\frown}{ZY}$ ∠ZQY

Find the measure of the arc. Assume that line segments which appear to be diameters are.

19.	20.	21.	22.
45° 110° 90 115° ? **? = 90**	$m\overset{\frown}{UT}$ = 130° 50 130 130° 50	$m\overset{\frown}{STR}$ = 235° 125° 180 55	$m\overset{\frown}{SU}$ = 112° 69° 68 43 68°

Find the length of each arc. Label your answer! Express your answer in terms of pi.

23.

10 ft   225°

$$\frac{225}{360} \cdot 2\pi(10)$$

$$\frac{5}{8} \cdot 20\pi$$

$$\frac{100}{8}\pi$$

$$\boxed{\frac{25}{2}\pi \text{ ft}}$$

24.

r = 11 m, θ = 150°

$$\frac{150}{360} \cdot 2\pi(11)$$

$$\frac{5}{12} \cdot 22\pi$$

$$\frac{110}{12}\pi$$

$$\boxed{\frac{55}{6}\pi \text{ m}}$$

Find the length of each arc. Label your answer! Round to the nearest tenth.

25.

45° 12 mi

$$\frac{45}{360} \cdot 2\pi(12)$$

$$\boxed{9.4 \text{ mi}}$$

26.

r = 7 km, θ = 165°

$$\frac{165}{360} \cdot 2\pi(7)$$

$$\boxed{20.1 \text{ km}}$$