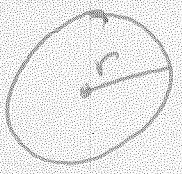
Unit 6 Review - Circles Name: Key Period: _____

Complete each statement. (If stuck, draw a picture!)

1. A tangent to a circle is perpendicular to the radius drawn to the point of tangency.
2. Tangent segments to a circle from a point outside the circle are congruent.
3. If two chords in a circle are congruent, then they determine two arcs that are congruent.
4. If two chords in a circle are congruent, then their central angles are congruent.
5. The perpendicular from the center of a circle to a chord is the perp. bisector of the chord.
6. Two congruent chords in a circle are equidistant from the center of the circle.
7. The perpendicular bisector of a chord passes through the center of the circle.
8. The measure of an angle inscribed in a circle is one half the measure of the intercepted arc.
9. Inscribed angles that intercept the same arc are congruent.
10. Angles inscribed in a semicircle are 90°.
11. The opposite angles of a cyclic quadrilateral are supplimentary.
12. Parallel lines intercept congruent arcs on a circle.
13. The length of an arc equals _____.
14. If two secants of a circle are parallel, then the determined arcs are _____.

Circumference

15. The circumference of a circle is 88π ft. What is the radius? Show all work.



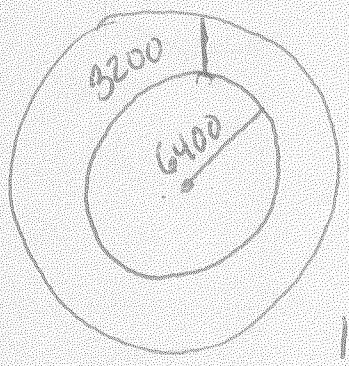
$C = 88\pi$ ft
$C = 2\pi r$

$\frac{2\pi r}{2\pi} = \frac{88\pi \text{ ft}}{2\pi}$

$r = 44$ ft

Points for
✓ Picture
✓ Equation
✓ answer

16. A satellite in a nearly circular orbit is 3200 km above Earth's surface. The radius of Earth is about 6400 km. If the satellite completes its orbit in 14 hours, calculate the speed of the satellite in km/hr. Show all work.



orbit radius = 9600 km

$C = 2\pi r$
$C = 2\pi(9600)$
$C = 19{,}200\pi$ km
one orbit

1 orbit = 14 hours
$\frac{1}{14}$ orbit = 1 hour

Speed

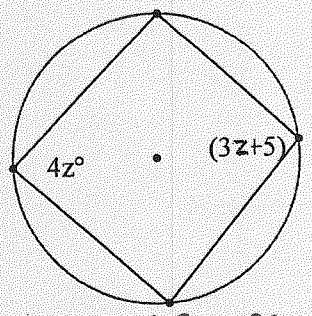
$\frac{1}{14} \cdot 19{,}200\pi$ km/1 hr

4308 km/hr

17. Solve each problem. Show all work.

77
69
146

a.

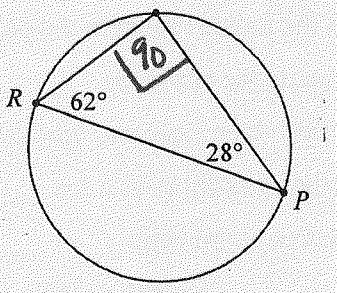


$4z + 3z + 5 = 180$

$7z = 175$

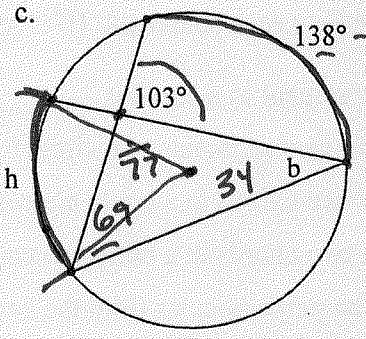
z = 25

b. is $\overline{RP}$ a diameter? Why?



yes ins. ang = 90°

c.

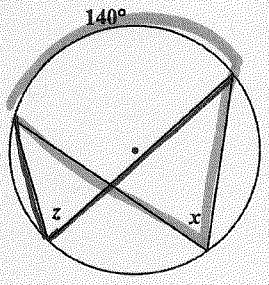


180
-146
34

b = ~~60~~ 34°

h = ~~34~~ 60°

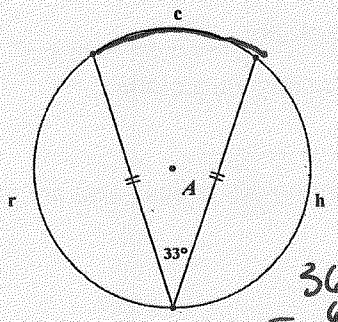
d.



x = 70°

z = 70°

e.



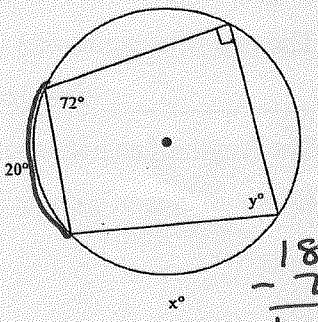
360
- 66
294
÷ 2
147

c = 66°

h = 147°

r = 147°

f.

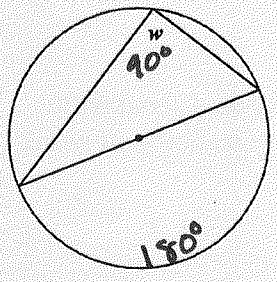


180
- 72
108

x = ~~108~~ 160°

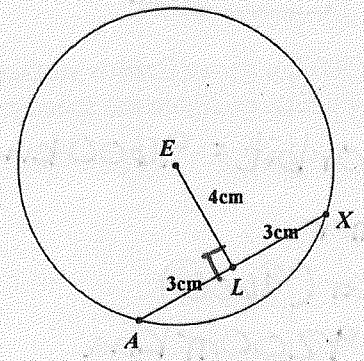
y = 108°

g.



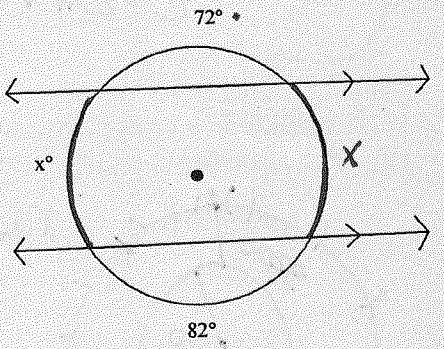
w = 90°

h.



$m\angle ELA$ = 90°

i.



360
- 72
- 82
206

x = 103°