Name   Ms. Kresovic

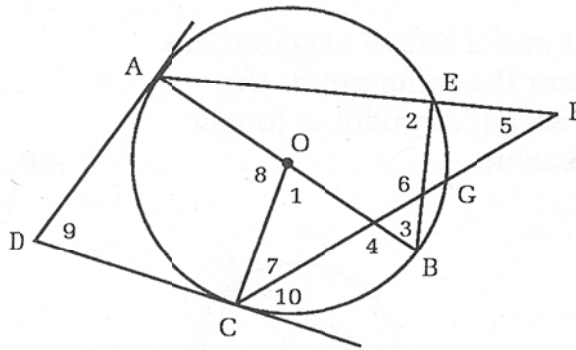Adv Geo   R 2 May 2013

Ch 10 Take Home Portion of the Test

Each problem is worth 1 points, totaling 38 points. This part of the test is worth 40 points. Points earned will be reduced 10% every day it is late, regardless of reason. If you are sick, scan and email it

In problems 1–10, find the measure of each angle. Refer to the diagram and the information given.

Given: $\odot O$

$\overline{AB}$ is a diameter,

$\overline{DA}$ and $\overline{DC}$ are tangents.

$\overset{\frown}{AC} = 120°, \overset{\frown}{AE} = 84°, \overset{\frown}{EG} = 58°$

1	$\angle 1$	1	_____
2	$\angle 2$	2	_____
3	$\angle 3$	3	_____
4	$\angle 4$	4	_____
5	$\angle 5$	5	_____
6	$\angle 6$	6	_____
7	$\angle 7$	7	_____
8	$\angle 8$	8	_____
9	$\angle 9$	9	_____
10	$\angle 10$	10	_____

Part II (10 points)

## In problems 11–20, decide whether each statement is True (T) or False (F).

11   Two concentric circles have exactly 1 common
      tangent.   11 _____

12   If a quadrilateral is inscribed in a circle, its
      opposite angles are supp.   12 _____

13   π is defined to be the ratio of the diameter of a
      $\odot$ to its circumference.   13 _____

14   Parallelogram ABCD is inscribed in a $\odot$.
      Then $m\angle A$ must be 90.   14 _____

15   If an inscribed angle and a central angle
      intercept the same arc, they are $\cong$.   15 _____

16 The sides of an equilateral triangle inscribed in a circle are closer to the center of the circle than the sides of a square inscribed in the circle.

16 _____

17 A line can intercept a circle either 0 times, 1 time, or 2 times. No other possibilities exist.

17 _____

18 If a chord of a circle is twice as long as a radius of that circle, the chord is a diameter.

18 _____

19 If two circles have 4 common tangents, then the two circles intersect.

19 _____

20 If a tangent segment and a secant segment are drawn to a circle from the same point, the external part of the secant segment is longer than the tangent segment.

20 _____

Part III (24 points)

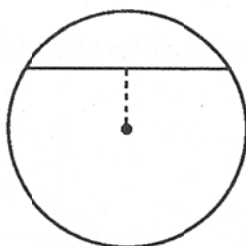**21** $\odot$O
$\angle OCB = 75°$
Find the measure of $\angle A$.
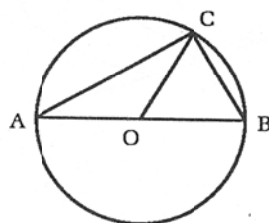
21 _____

22 A square with an area of 256 is inscribed in a circle.
Find the radius of the circle.
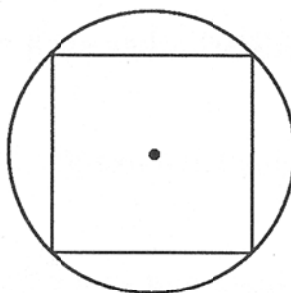
22 _____

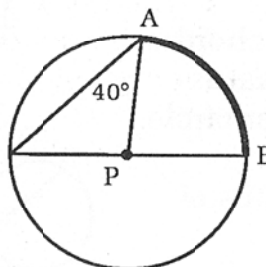**23** Find, to the nearest cm, the circumference of a circle in which an 80-cm chord is 9 cm from the center.

23 _____

24 ⊙O with radius 8
⊙P with radius 3
The length of the
common external
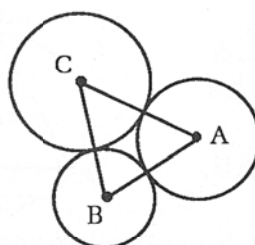tangent seg. is 12.
Find the distance
between the two circles.

24 _____

25 If a point is chosen at
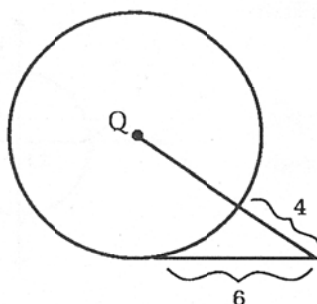random on ⊙P, what is
the probability that it is
on arc AB?

25 _____

26 AC = 14
AB = 10
CB = 18
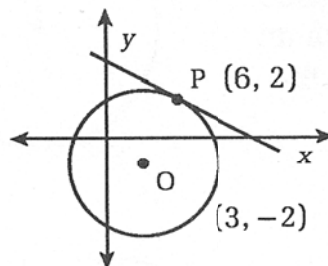Find the length of the
radius of the largest circle.

26 _____

27 Find the length of
the radius of ⊙Q.

27 _____

Solve problems 28 and 29 by referring to the diagram.
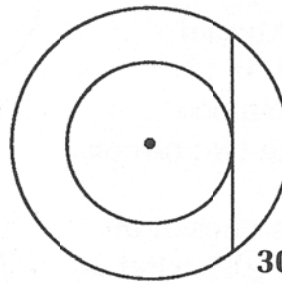
28 Find the length of
the radius of ⊙O.

28 _____

29 Find the slope of
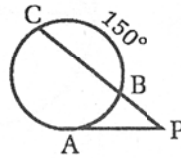the tangent to ⊙O
at P.

29 _____

30 Given: Two concentric circles with radii of lengths 16 and 20.
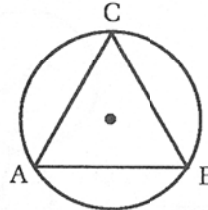Find the length of a chord of the larger circle that is tangent to the smaller circle.

30 _____

31 The ratio of the lengths of $\overset{\frown}{AC}$ to $\overset{\frown}{AB}$ is 3:2.
Find the measure of $\angle P$.

31 _____

32 Chords $\overline{AB}$, $\overline{BC}$, and $\overline{CA}$ are equidistant from the center of the circle.
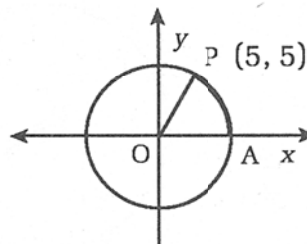Find the measure of $\overset{\frown}{AB}$.

32 _____

Solve problems 33 and 34 by referring to the diagram.

33 Find the length of the radius of $\odot O$.

33 _____

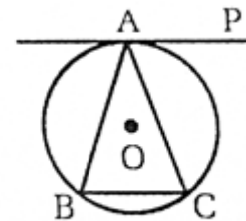**34** Find the length of $\overset{\frown}{PA}$, correct to the nearest tenth.

34 _____

Complete the proof.

Given: $\triangle ABC$ is isos. with $\overline{AB} \cong \overline{AC}$.
$\overline{PA}$ tan to $\odot O$
Prove: $\overset{\leftrightarrow}{PA} \parallel \overset{\leftrightarrow}{BC}$

$\triangle ABC$ is isos. with $\overline{AB} \cong \overline{AC}$.	Given
$\angle B \cong \angle C$	35.
$\angle B \cong \angle PAC$	36.
$\angle C \cong \angle PAC$	37
$\overset{\leftrightarrow}{PA} \parallel \overset{\leftrightarrow}{BC}$	38.