

Name _____

Ms. Kresović

Advanced Geometry period _____

Date _____

Due Monday 9 May 2016.

Semester II Exam Review

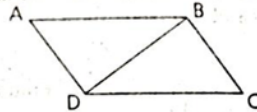
DIRECTIONS: Complete the following exercises from the text (Cumulative Review, Chapters 1 – 12, p 598-602). If you have any difficulty reading the following images, refer to the text for the original image. Failure to complete a problem because you couldn't read it is not sufficient; look through the packet and compare it to the text for any missing/unreadable information. This packet is intended to make the work easier (as you no longer need to re-write the problem). Show your work in the space provided below. Additional paper(s) will not be scored. Be neat and organized. Circle your final answers.

Problem Set A

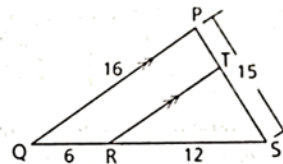
1 The measure of one of the acute angles of a right triangle is nine times the measure of the other acute angle. Find the measure of the larger acute angle.

2 The perimeter of $\triangle ABC$ is 28. If $AB = 2x + 3$, $BC = 4x - 5$, and $CA = 8x - 19$, is $\triangle ABC$ scalene, isosceles, or equilateral?

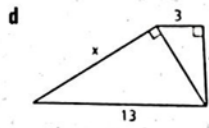
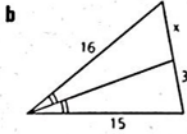
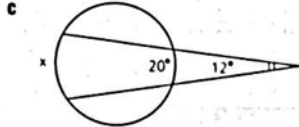
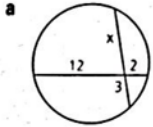
3 Given: $\overline{BD} \perp \overline{AD}$, $\overline{BD} \perp \overline{BC}$, $\overline{AB} \cong \overline{CD}$
 Prove: $ABCD$ is a \square .



4 Given: $\overline{PQ} \parallel \overline{TR}$
 Find: **a** PT
b TR



5 Find the value of x in each figure.

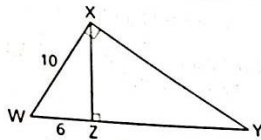


6 Two similar triangles have areas of 9 and 25.

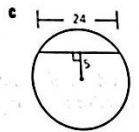
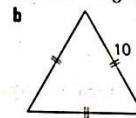
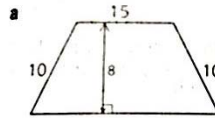
- a What is the ratio of a pair of corresponding sides?
- b What is the ratio of the triangles' perimeters?

7 Given: Diagram as marked.

- Find: a WY
- b YZ
- c XZ



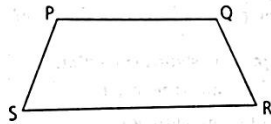
8 Find the areas of the trapezoid, the triangle, and the circle.



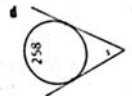
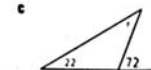
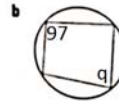
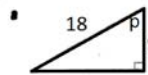
9 Given: SPQR is an isosceles trapezoid.

$\angle S = (x + 40)^\circ$
 $\angle Q = (2x - 7)^\circ$

Find: $\angle R$.

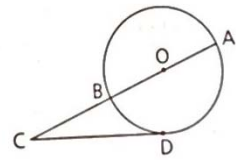


11 Find p , q , r , and s .

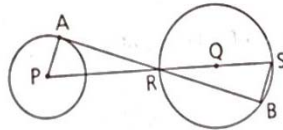


- 12 a Find the fourth proportional in a proportion whose first three terms are 5, 3, and 30.
 b Find the mean proportionals between 8 and 18.

- 13 Given: $\odot O$ with tangent \overline{CD} ,
 $CD = 15$,
 $BC = 9$
 Find: a AC
 b The diameter of $\odot O$

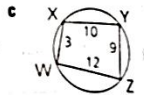
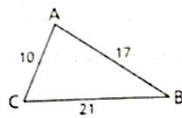
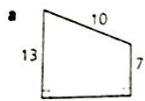


- 14 Given: \overline{AR} is tangent to $\odot P$.
 \overline{RS} is a diameter of $\odot Q$.
 Prove: $\triangle PAR \sim \triangle SBR$



- 15 In $\triangle ABC$, D and E are the midpoints of \overline{AB} and \overline{AC} , $DE = 4x$, and $BC = 2x + 48$. Find BC.

- 16 Find the area of each polygon.

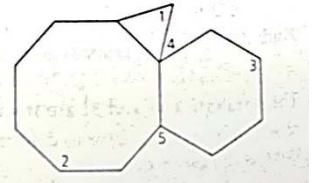


- 17 Find the number of sides of an equiangular polygon if each interior angle is 170° .

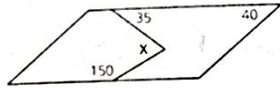
- 18 The perimeter of an isosceles triangle is 36. One side is 10. What are the possible lengths of the base?

- 19 Each polygon shown is regular.

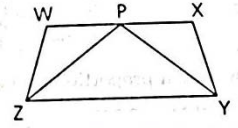
- a Find the measure of $\angle 1$.
 b Find the measure of $\angle 2$.
 c Find the measure of $\angle 3$.
 d Find the measure of $\angle 4$.
 e Will a regular pentagon fit at $\angle 5$?



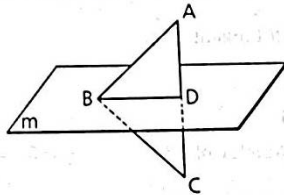
20 Given: Parallelogram as marked
Find: x



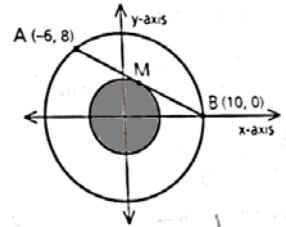
21 Given: $WXYZ$ is an isosceles trapezoid,
with $WZ \cong XY$.
 $\triangle PZY$ is isosceles.
Prove: P is the midpoint of WX .



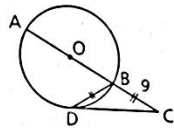
22 Given: $\overleftrightarrow{AC} \perp m$, $\overline{BC} \cong \overline{BA}$
Prove: D is the midpoint of \overline{AC} .



26 If M is the midpoint of \overline{AB} , what is the area of the shaded region?

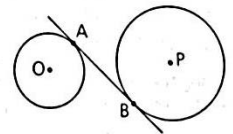


28 Given: $\odot O$, $CB = 9$,
 $\angle C = 30^\circ$, $\overline{BC} \cong \overline{BD}$;
 \overleftrightarrow{CD} is tangent to $\odot O$.



Find: a $m\widehat{AD}$ b CD c The radius of $\odot O$

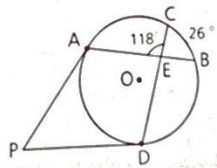
29 Given: The radius of $\odot O$ is 0.7.
The radius of $\odot P$ is 1.1.
 \overleftrightarrow{AB} is a common internal tangent.
 $AB = 2.4$



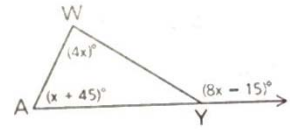
Find: a OP b The distance between the circles

AMDG

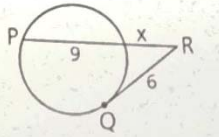
- 30 Given: Diagram as marked, with \overleftrightarrow{PA} and \overleftrightarrow{PD} tangent to $\odot O$
 Find: **a** \widehat{AD}
b $m\angle P$



- 31 Given: Triangle as marked
 Find: $m\angle WYA$



- 33 Given: Diagram as marked, with \overleftrightarrow{RQ} tangent to the circle
 Find: x



- 35 Given: $m\widehat{AB} : m\widehat{CD} = 5 : 2$,
 $\angle P = 24^\circ$
 Find: \widehat{CD}

