

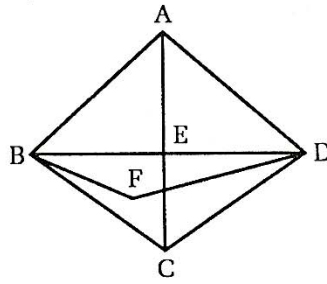
Name \_\_\_\_\_  
 Adv Geo Period \_\_\_\_\_  
 Lines in the Plane (ch 4) Cooperative Work

Ms. Kresovic  
 Friday, 11/13/2015  
 /21 points

**Part I (10 points)**

**In problems 1–5, determine whether each statement is true (T) or false (F) based on the diagram.** If the statement is TRUE, write true and provide the reason (in the space on the right).

Given:  $\angle ABD \cong \angle ADB$   
 $\overline{BC} \cong \overline{DC}$



If true,  
 note reason below.

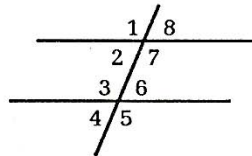
- 1  $\overline{AB} \cong \overline{AD}$
- 2  $\overleftrightarrow{AC} \perp$  bisector of  $\overline{BD}$ .
- 3 F is equidistant from B and D.
- 4  $\overleftrightarrow{BE} \parallel \overleftrightarrow{AD}$

1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_

- 5  $\overline{CE}$  is an altitude of  $\triangle BCD$ .

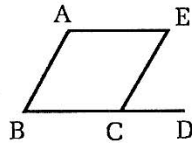
5 \_\_\_\_\_

- 6  $\angle 2$  and what other angle are alternate interior angles?



6 \_\_\_\_\_

- 7 Name a pair of corresponding angles for  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{EC}$  with transversal  $\overleftrightarrow{BD}$ .

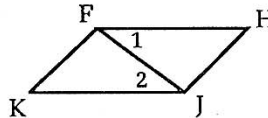


7 \_\_\_\_\_

**In problem 8, choose the correct answer.**

- 8 For which two lines are  $\angle 1$  and  $\angle 2$  a pair of alternate interior angles?

- a  $\overleftrightarrow{FK}$  and  $\overleftrightarrow{FH}$     b  $\overleftrightarrow{FK}$  and  $\overleftrightarrow{HJ}$   
 c  $\overleftrightarrow{FK}$  and  $\overleftrightarrow{KJ}$     d  $\overleftrightarrow{FH}$  and  $\overleftrightarrow{KJ}$   
 e none of these

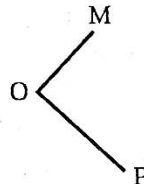


8 \_\_\_\_\_

- 9 If two angles are both congruent and supplementary, then they are \_\_\_\_\_ angles.

9 \_\_\_\_\_

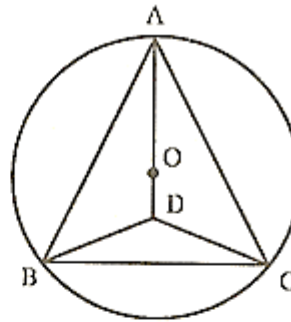
- 10 If  $\overleftrightarrow{MO} \perp \overleftrightarrow{OP}$  and  $\overleftrightarrow{OP}$  has a slope of  $-\frac{13}{17}$ , then find the slope of  $\overleftrightarrow{MO}$ .



10 \_\_\_\_\_

**Part II**

Supply the missing statement and reasons in the proof for problem 11. (6 points)



- 11 Given:  $\odot O$   
 $\overline{AB} \cong \overline{AC}$   
 Prove:  $\angle DBC \cong \angle DCB$

Statements	Reasons
1 $\odot O$	1 Given
2 Draw $\overleftrightarrow{OB}$ and $\overleftrightarrow{OC}$ .	2 _____
3 _____	3 All radii of a circle are congruent.
4 $\overline{AB} \cong \overline{AC}$	4 _____
5 $\overleftrightarrow{AD} \perp$ bisector of $\overline{BC}$ .	5 _____
6 $\overline{BD} \cong \overline{CD}$	6 _____
7 $\angle DBC \cong \angle DCB$	7 _____

In problem 12, write a two-column proof. (5 points)

- 12 Given:  $\overline{RE} \cong \overline{TC}$   
 $\overline{RT} \cong \overline{EC}$   
 $\overline{EN} \cong \overline{TA}$   
 Prove:  $\overline{RN} \cong \overline{CA}$   
 (Hint: First, prove  $\triangle RET \cong \triangle CTE$ .)

