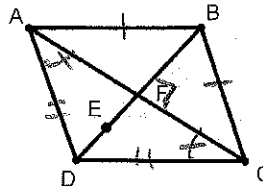


Geometry
Chapter 4 Review Worksheet

Name Key
Date _____ Period _____

In problems 1-5, determine whether each statement is true (T) or false (F) based on the diagram.

Given: $\angle DAF \cong \angle DCF$
 $\overline{AB} \cong \overline{CB}$



#1. $\overline{AD} \cong \overline{CD}$

1. True ($\Delta \rightarrow \Delta$)

#2. $\overline{BD} \perp$ bisector of \overline{AC} .

2. True

#3. F is equidistant from A and C.

3. True

#4. E is equidistant from F and D.

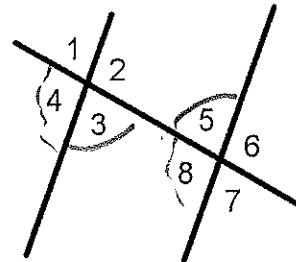
4. False

#5. \overline{BF} is an altitude of $\triangle ABC$

5. True

#6. $\angle 5$ and what other angle are alternate interior angles?

$\angle 3$

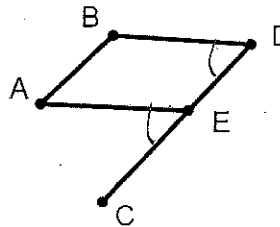


#7. $\angle 4$ and what other angle are corresponding angles?

$\angle 8$

#8. Name a pair of corresponding angles for \overline{AE} and \overline{BD} with transversal \overline{CD}

$\angle D$ and $\angle AEC$
($\angle BDE$)



#9. Multiple choice: For which two lines are $\angle 3$ and $\angle 4$ a pair of alternate interior angles?

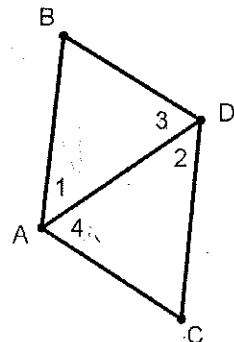
a) \overline{AB} and \overline{CD}

b) \overline{AB} and \overline{DB}

c) \overline{AC} and \overline{BD}

d) \overline{AB} and \overline{AD}

e) none of these



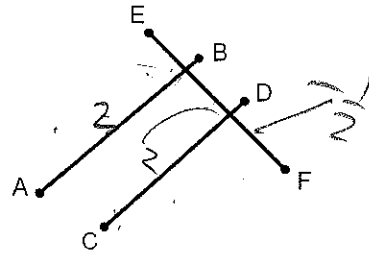
#10. Fill in the blank:

If a line segment from a vertex is a median to a triangle, it intersects the opposite side at that side's midpoint

#11. In the diagram, if \overline{AB} has a slope of 2, and $\overline{CD} \parallel \overline{AB}$ and $\overline{EF} \perp \overline{AB}$

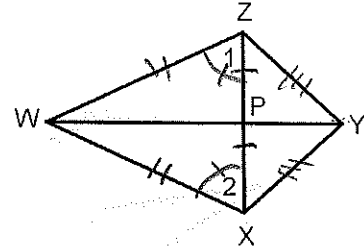
a) what is the slope of \overline{CD} ? 2

b) what is the slope of \overline{EF} ? $-\frac{1}{2}$



#12. Complete the proof: Given: P is the midpoint of \overline{XZ}
 $\angle 1 \cong \angle 2$

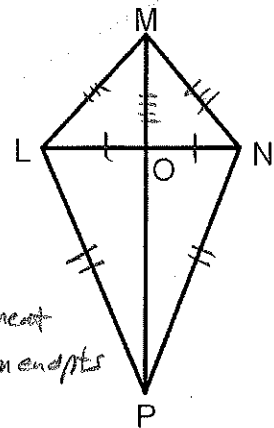
Prove: $\overline{XY} \cong \overline{YZ}$



Statement	Reason
1. P is the midpoint of \overline{XZ}	1. Given
2. $\angle 1 \cong \angle 2$	2. Given
3. $\overline{PZ} \cong \overline{PX}$	3. def. of midpoint
4. $\overline{WP} \cong \overline{YP}$	4. $\triangle \rightarrow \triangle$
5. $\overline{WY} \perp \text{bis. } \overline{XZ}$	5. 2 pts equidistant from endpts make \perp bis.
6. $\overline{XY} \cong \overline{YZ}$	6. points on \perp bis are equidistant from endpts

#13. Complete the proof: Given: $\overline{LO} \cong \overline{NO}$
 $\overline{LP} \cong \overline{NP}$

Prove: $\angle LMO \cong \angle NMO$

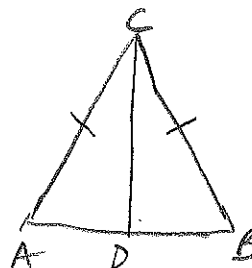


Statement	Reason
1. $\overline{LO} \cong \overline{NO}$	1. Given
2. $\overline{LP} \cong \overline{NP}$	2. Given
3. $\overline{PM} \perp \text{bis to } \overline{LN}$	3. 2 pts equidistant from endpts of segment form \perp bis to segment
4. $\overline{OM} \cong \overline{OM}$	4. pts on \perp bis are equidistant from endpts
5. $\overline{OM} \cong \overline{OM}$	5. Reflexive prop.
6. $\triangle LMO \cong \triangle NMO$	6. SSS
7. $\angle LMO \cong \angle NMO$	7. CPCTC

#14. Draw a figure, state both what is given and the conclusion: (setup only – do not prove)
The bisector of the vertex angle of an isosceles triangle is perpendicular to the base.

Given: $\triangle ABC$ is isosceles ($\overline{AC} \cong \overline{BC}$)
 \overline{CD} bisects $\angle ACB$

Prove: $\overline{CD} \perp \overline{AB}$



#15.

a) If the median from A intersects \overline{BC} at M, what are the coordinates of M?

$$\left(\frac{15+3}{2}, \frac{7+1}{2} \right) = (9, 4)$$

a) (9, 4)

b) Find the slope of \overline{BC} .

$$m = \frac{7-1}{15-3} = \frac{6}{12} = \frac{1}{2}$$

b) $\frac{1}{2}$

c) Is \overline{AR} parallel to \overline{BC} ?

$$m_{AR} = \frac{8-4}{11-2} = \frac{4}{9}$$

c) no (slopes not equal)

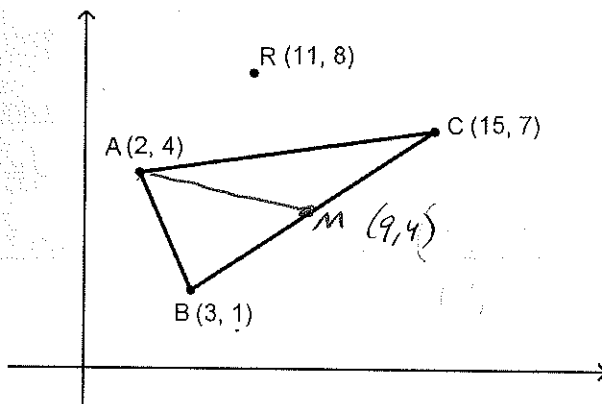
d) Find the slope of \overline{AB} .

$$m_{AB} = \frac{1-4}{3-2} = \frac{-3}{1}$$

d) -3

e) Is \overline{AB} perpendicular to \overline{BC} ?

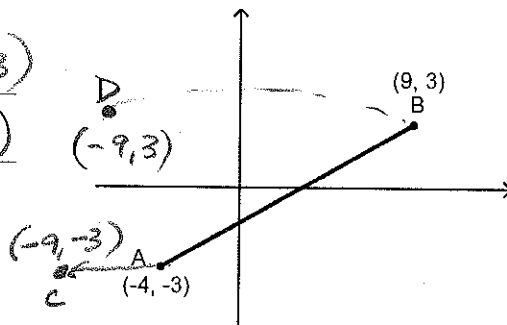
e) no (slopes not neg recip)



#16.

a) A is slid 5 units directly left to point C. Find C (-9, -3)

b) B is reflected over the y-axis to point D. Find D (-9, 3)



#17.

a) Name all pairs of alternate interior angles:

($\angle 2, \angle 6$), ($\angle 3, \angle 7$)

b) Name all pairs of alternate exterior angles:

($\angle 1, \angle 5$), ($\angle 4, \angle 8$)

c) Name all pairs of corresponding angles:

($\angle 1, \angle 3$), ($\angle 2, \angle 4$), ($\angle 8, \angle 6$), ($\angle 7, \angle 5$)

d) Name 5 pairs of supplementary angles:

($\angle 1, \angle 2$), ($\angle 3, \angle 4$), ($\angle 7, \angle 8$), ($\angle 5, \angle 6$), ($\angle 2, \angle 7$)

