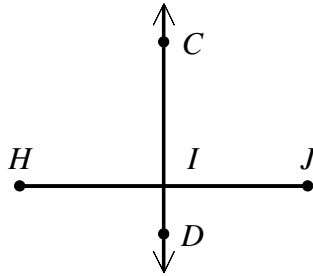
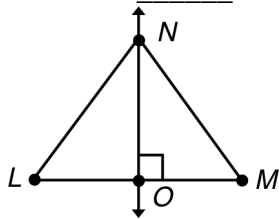


GEOMETRY CHAPTER 5 PRACTICE TEST

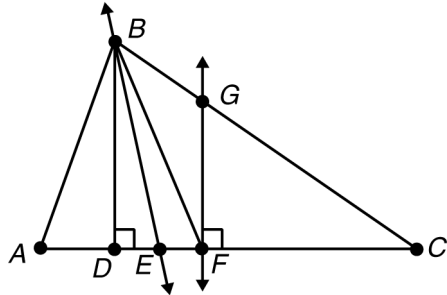
1. Given:  $\overleftrightarrow{CD}$  is the perpendicular bisector of  $\overline{HJ}$ . Name three things that you can conclude.



2.  $\overleftrightarrow{NO}$  is the perpendicular bisector of  $\overline{LM}$ . If  $OM = 4$  and  $LN = 6$ , then  $LO =$  \_\_\_\_\_ and  $MN =$  \_\_\_\_\_.



3. Refer to the figure below.



Given:  $\overline{AF} \cong \overline{FC}$ ,  $\angle ABE \cong \angle EBC$ .

Identify each of the following in the figure:

Line GF: \_\_\_\_\_

Ray BE: \_\_\_\_\_

Line Segment BF: \_\_\_\_\_

Line Segment BD: \_\_\_\_\_

4. Identify the point of concurrency for each of the following AND define:

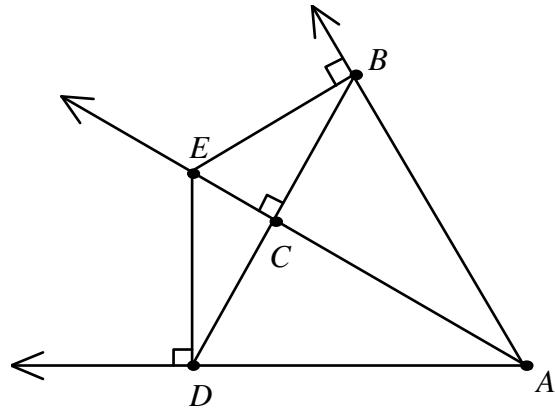
Perpendicular bisector: \_\_\_\_\_

angle bisector: \_\_\_\_\_

median: \_\_\_\_\_

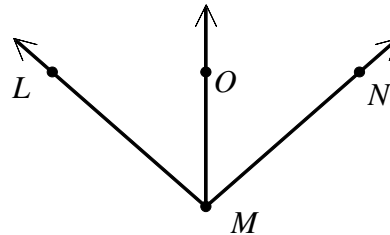
altitude: \_\_\_\_\_

5. Given:  $\overleftrightarrow{AE}$  bisects  $\angle DAB$ . Find  $ED$  if  $CB = 16$  and  $CE = 30$ . (not drawn to scale)



[A] 480 [B] 46 [C] 34 [D] 14

6. In the figure (not drawn to scale),  $\overleftrightarrow{MO}$  bisects  $\angle LMN$ ,  $m\angle LMO = 15x - 21$ , and  $m\angle NMO = x + 63$ . Solve for  $x$  and find  $m\angle LMN$ .

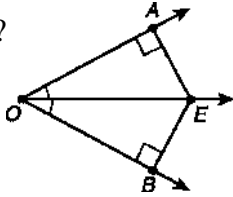


[A] 6,  $138^\circ$  [B] 3,  $24^\circ$

[C] 6,  $111^\circ$  [D] 3,  $27^\circ$

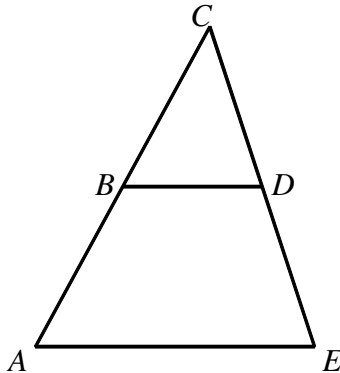
GEOMETRY CHAPTER 5 PRACTICE TEST

7.  $\overrightarrow{OE}$  bisects  $\angle BOA$ ,  $\overline{EA} \perp \overline{OA}$ , and  $\overline{EB} \perp \overline{OB}$ . Which statement is NOT true?

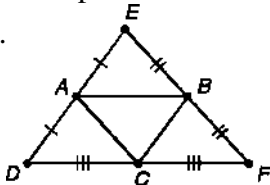


- [A]  $\angle AEO \cong \angle BEO$
- [B]  $\angle AOE \cong \angle EAO$
- [C]  $\overline{AE} \cong \overline{BE}$
- [D]  $\overline{OA} \cong \overline{OB}$

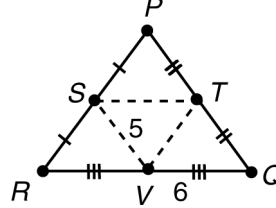
8. Solve for  $x$  given  $BD = 3x + 2$  and  $AE = 4x + 8$ . Assume  $B$  is the midpoint of  $\overline{AC}$  and  $D$  is the midpoint of  $\overline{CE}$ .



9. For the given triangle, state the relationships between  $\overline{AB}$  and  $\overline{DF}$ .

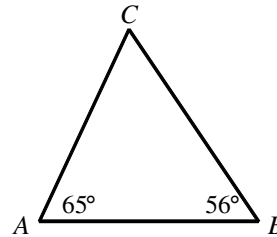


10. For the triangle shown,  $VS = 5$  and  $VQ = 6$ . Then  $PQ =$  \_\_\_\_\_.

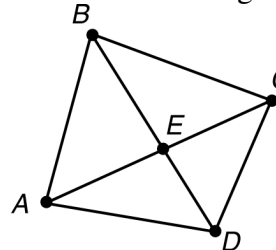


- [A] 11 [B] 5 [C] 10 [D] 12

11. Identify the longest side of  $\triangle ABC$ .



12. Refer to the figure.



Given:  $\overline{AB} \cong \overline{AD}$ ,  $BE > ED$  What is the relationship ( $<$ ,  $>$ , or  $=$ ) between  $m\angle BAE$  and  $m\angle DAE$ ?

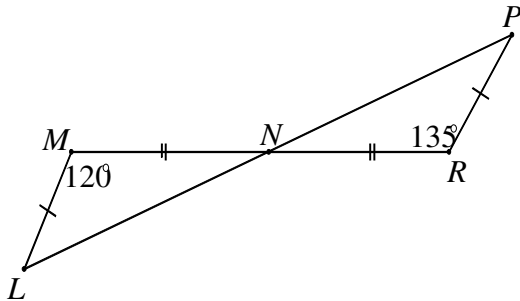
13. Two sides of a triangle have lengths 8 and 11. What are the possible lengths of the third side  $x$ ?

GEOMETRY CHAPTER 5 PRACTICE TEST

14. Which of these lengths could be the sides of a triangle?

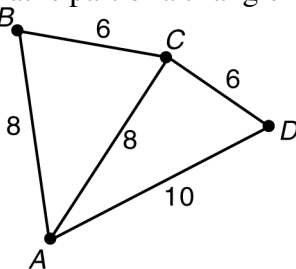
- [A] 13 cm, 19 cm, 4 cm
- [B] 19 cm, 9 cm, 11 cm
- [C] 19 cm, 13 cm, 5 cm
- [D] 9 cm, 19 cm, 10 cm

15. Which statement is false for the triangle in the diagram?



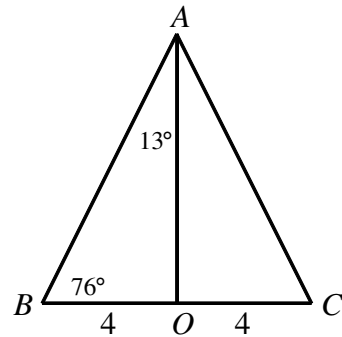
- [A]  $LN > NP$  [B]  $MN = NR$
- [C]  $LM = RP$  [D]  $LN < NP$

16. Refer to the figure. What is the largest angle that is part of a triangle in the figure?

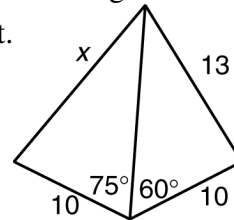


17. Find the appropriate symbol to place in the blank. (not drawn to scale)

$AB \_ AC$

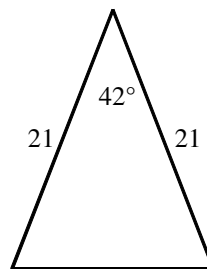


18. Refer to the figure. Choose the correct statement.



- [A]  $x > 13$  [B]  $x < 10$
- [C]  $x = 13$  [D]  $10 < x < 13$

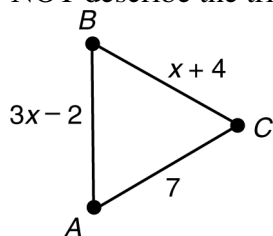
19. What is the measure of each base angle of an isosceles triangle if its vertex angle measures 42 degrees and its 2 congruent sides measure 21 units?



- [A]  $42^\circ$
- [B]  $138^\circ$
- [C]  $48^\circ$
- [D]  $69^\circ$

GEOMETRY CHAPTER 5 PRACTICE TEST

20. In  $\triangle ABC$ ,  $\overline{AB} \cong \overline{BC}$ , which term does NOT describe the triangle?



- [A] Isosceles [B] Acute  
[C] Obtuse [D] Equilateral

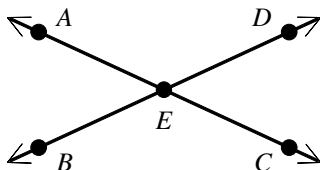
21. Find the slope-intercept form of the the line passing through the point  $(3, -5)$  and parallel to the line  $y = -4x + 2$ .

- [A]  $y = 4x - 7$  [B]  $y = -4x - 17$   
[C]  $y = \frac{1}{4}x - \frac{23}{4}$  [D]  $y = -4x + 7$

22. The line  $y = -\frac{1}{2}x + 3$  is perpendicular to which line?

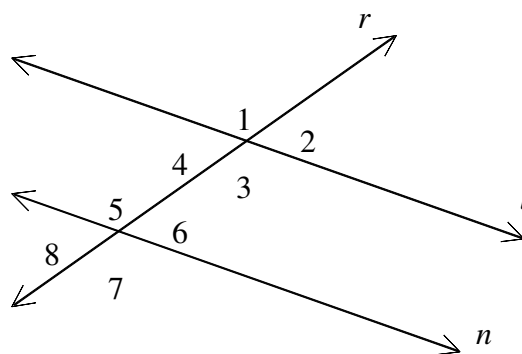
- [A]  $y = -2x$  [B]  $y = 2x - 3$   
[C]  $y = -\frac{1}{2}x + 6$  [D]  $y = \frac{1}{2}x + 1$

23. In the figure shown,  $m\angle AED = 122^\circ$ . Which of the following statements is false?



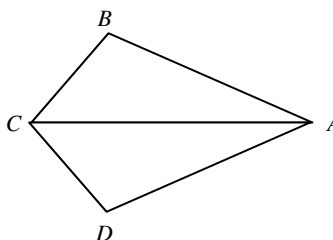
- [A]  $\angle BEC$  and  $\angle CED$  are adjacent angles.  
[B]  $\angle AEB$  and  $\angle DEC$  are vertical angles.  
[C]  $m\angle BEC = 58^\circ$   
[D]  $m\angle AEB = 58^\circ$

24. In the figure,  $l \parallel n$  and  $r$  is a transversal. Which of the following is not necessarily true?



- [A]  $\angle 7 \cong \angle 4$   
[B]  $\angle 2 \cong \angle 6$   
[C]  $\angle 8 \cong \angle 2$   
[D]  $\angle 5 \cong \angle 3$

25. Given:  $\angle DCA \cong \angle BCA$ ,  $\angle B \cong \angle D$   
Prove:  $\overline{AB} \cong \overline{AD}$



## GEOMETRY CHAPTER 5 PRACTICE TEST

Reference: [5.1.1.1]

[1] Any three of the following:  $\overline{CD} \perp \overline{HJ}$ ;  
 $\angle CIJ$ ,  $\angle JID$ ,  $\angle DIH$ , and  $\angle HIC$  are rt  $\angle$ s;

$I$  is the midpoint of  $\overline{HJ}$ ;  $\overline{HI} \cong \overline{IJ}$ ;  $CH$   
 $= CJ$ ,  $DH = DJ$

$$[9] \overline{AB} \parallel \overline{DF} \text{ and } AB = \frac{1}{2}DF$$

Reference: [5.2.1.6a]

[2]  $LO = 4$ ,  $MN = 6$ ;  $\triangle LNO \cong \triangle MNO$  by  
 SAS, so corresp. parts of congruent triangles  
 are congruent.

Reference: [5.4.1.45]

[10] [C]

Reference: [5.5.1.50]

[11]  $\overline{CB}$ 

Reference: [5.2.1.12a]

[3] perpendicular bisector, angle bisector,  
 median, altitude

Reference: [5.5.1.53]

[12]  $m\angle BAE > m\angle DAE$ 

Reference: [5.2.1.13a]

[4] circumcenter; a point equidistant from  
 the vertices of the triangle.  
 incenter; a point equidistant from the sides  
 of the triangle.  
 centroid; two-thirds the distance from each  
 vertex to the midpoint of the opposite side.  
 orthocenter: perpendicular segment from a  
 vertex to the opposite side of the triangle.

Reference: [5.5.2.58]

[13]  $3 < x < 19$ 

Reference: [5.5.2.64]

[14] [B]

Reference: [5.6.2.68]

[15] [A]

Reference: [5.6.2.69]

[16]  $\angle ACD$ 

Reference: [5.2.2.18]

[5] [C]

Reference: [5.6.2.71]

[17]  $>$ 

Reference: [5.2.2.19]

[6] [A]

Reference: [5.6.2.72]

[18] [A]

Reference: [5.2.2.22]

[7] [B]

Reference: [4.6.1.78]

[19] [D]

Reference: [5.4.1.40]

[8] 2

Reference: [4.6.1.81]

[20] [C]

Reference: [5.4.1.47]

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GEOMETRY CHAPTER 5 PRACTICE TEST

Reference: [3.6.2.46]

[21] [D]

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Reference: [3.7.1.54]

[22] [B]

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Reference: [1.6.1.62]

[23] [C]

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Reference: [3.3.1.18]

[24] [A]

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Reference: [4.4.1.68]

[25]

- |  |  |
|--|--|
| 1. $\angle DCA \cong \angle BCA$ , $\angle B \cong \angle D$ | 1. Given   |
| 2. $\overline{AC} \cong \overline{AC}$                       | 2. Reflexive Property                                      |
| 3. $\triangle ABC \cong \triangle ADC$                       | 3. AAS Congruence Theorem                                  |
| 4. $\overline{AB} \cong \overline{AD}$                       | 4. Congruent Parts of Congruent<br>Triangles are Congruent |