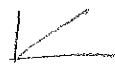
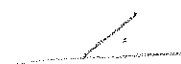

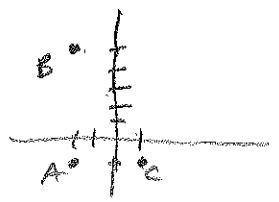


Geometry  
Chapter 2 Review

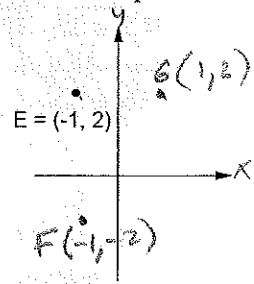
Name Key  
Date \_\_\_\_\_ Period \_\_\_\_\_

In problems 1-8, decide if each statement is True (T) or False (F):

- The complement of an acute angle is acute. True 
- The supplement of an acute angle is obtuse. True 
- An angle trisector divides an angle into two congruent parts. False
- If two angles are supplementary to the same angle, they are congruent. True
- Point A (-2,-1) is closer to point B (-2, 5) than it is to point C (1, -1). False
- Vertical angles are congruent to each other. True
- The vertex of  $\angle LMN$  is point L. False 
- If congruent angles are bisected, the pieces are congruent. True

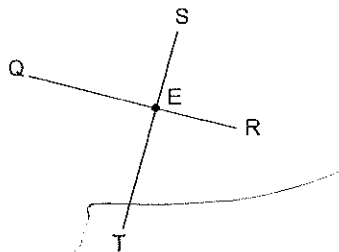


9. Given point E at (-1,2), what are the coordinates of:



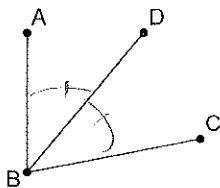
- point F = E reflected over the x-axis: (-1, -2)
- point G = E reflected over the y-axis: (1, 2)

10. If  $\overline{QR} \perp \overline{ST}$ :



- Name an angle that must be a right angle  $\angle SER$  (or  $\angle SEQ, \angle QET, \angle TER$ )
- What is the vertex is this angle? E

11. If  $\overline{BD}$  bisects  $\angle ABC$ , what can you say about  $\angle ABD$  and  $\angle DBC$ ?  $\angle ABD \cong \angle DBC$



12. The measure of  $\angle A$  is 120 and  $\angle B$  is supplementary to  $\angle A$ . Find the measure of  $\angle C$  if  $\angle C$  is complementary to  $\angle B$ .

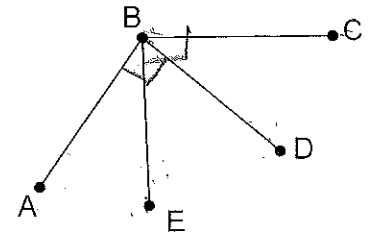
30°

$$120^\circ + \angle B = 180^\circ$$

$$\angle B = 60^\circ \quad \angle C = 90^\circ - 60^\circ = 30^\circ$$

13. Fill in the missing reasons:

Given:  $\angle ABD$  is a right angle.  
 $\angle CBE$  is a right angle.



Statement	Reason
1. $\angle ABD$ is a right angle	1. Given
2. $\angle CBE$ is a right angle.	2. Given
3. $\angle ABD \cong \angle CBE$	3. all rt $\angle$ 's are $\cong$
4. $\angle ABE \cong \angle CBD$	4. subtraction property.

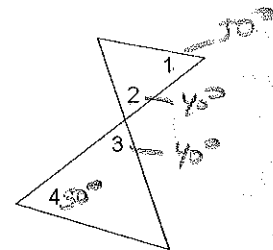
14. Fill in the missing reasons: (no diagram needed for this proof)

Given:  $\angle L \cong \angle M$  and  $\angle M \cong \angle N$   
 Prove:  $\angle L \cong \angle N$

Statement	Reason
1. $\angle L \cong \angle M$	1. Given
2. $\angle M \cong \angle N$	2. Given
3. $\angle L \cong \angle N$	3. Substitution (or $\angle$ 's congruent to same $\angle$ are $\cong$ )

15. If  $\angle 1$  is complementary to  $\angle 2$ ,  $\angle 3$  is complementary to  $\angle 4$ , and  $m\angle 4 = 50^\circ$ , find  $m\angle 1$ .

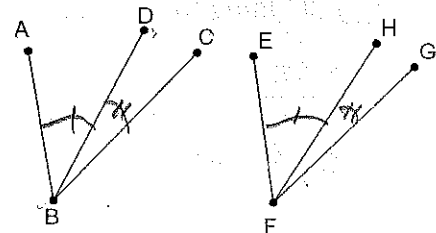
50°



16. Given:  $\angle ABD \cong \angle EFH$   
 $\angle DBC \cong \angle HFG$

Conclusion:  $\angle ABC \cong \angle EFG$

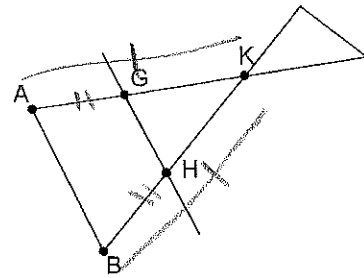
Reason: Addition Property



17. Given:  $\overline{AK} \cong \overline{BK}$   
 $\overline{AG} \cong \overline{BH}$

Conclusion:  $\overline{GK} \cong \overline{HK}$

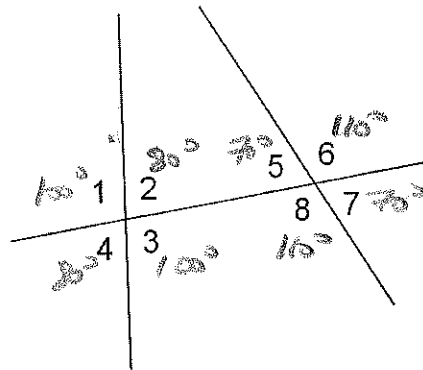
Reason: Subtraction Property



18. Given:  $\angle 1 = 100^\circ$   
 $\angle 3 + \angle 8 = 210^\circ$

Find: all the angles in the diagram:

- $m\angle 1 = 100^\circ$        $m\angle 5 = 70^\circ$   
 $m\angle 2 = 80^\circ$        $m\angle 6 = 110^\circ$   
 $m\angle 3 = 100^\circ$        $m\angle 7 = 70^\circ$   
 $m\angle 4 = 80^\circ$        $m\angle 8 = 110^\circ$

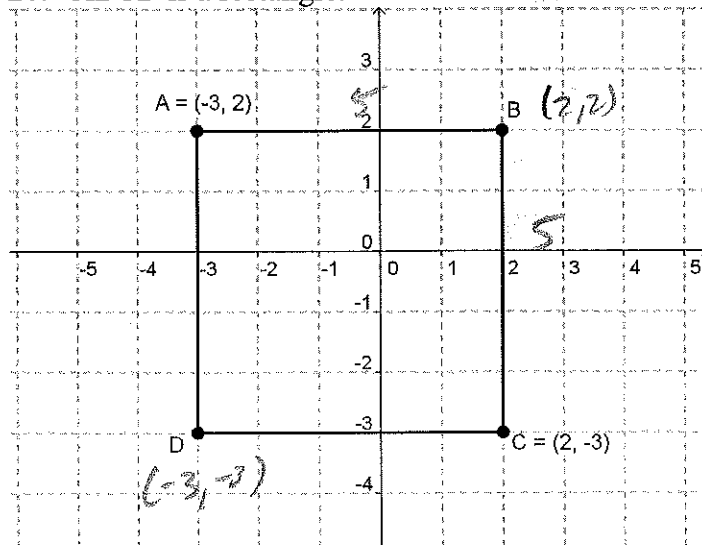


19. Given:  $\angle A$  is complementary to  $\angle B$   
 $\angle C$  is complementary to  $\angle B$

Conclusion:  $\angle A \cong \angle C$

Reason: angles complementary to same angle are congruent

20. ABCD is a rectangle.



- (a) Find the coordinates of point B: (2, 2)  
 (b) Find the coordinates of point D: (-3, -3)  
 (c) Find the area of ABCD:  $25 \text{ u}^2$   
 (d) Find the perimeter of ABCD: 20 \text{ u}

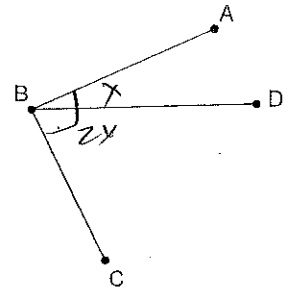
21.  $\angle CBA$  is a right angle. The ratio of  $m\angle CBD$  to  $m\angle ABD$  is 2:1. Find  $m\angle CBD$ .

$$2x + x = 90^\circ$$

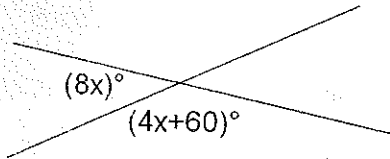
$$3x = 90^\circ$$

$$x = 30^\circ$$

$$2x = \boxed{60^\circ}$$



22. Find  $x$ :



$$8x + 4x + 60 = 180$$

$$12x + 60 = 180$$

$$12x = 120$$

$$\boxed{x = 10}$$

23. Given:  $m\angle AED = 5x + 2$   
 $m\angle CEB = 3x + 10$

Find:  $m\angle AEC$

$$5x + 2 = 3x + 10$$

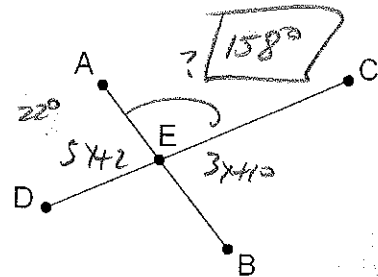
$$2x + 2 = 10$$

$$2x = 8$$

$$x = 4$$

$$\frac{180}{22}$$

$$\frac{158}{158}$$



24. A certain angle is 10 more than 3 times its complement. Find this angle's supplement.

$$x = 3(90 - x) + 10$$

$$x = 270 - 3x + 10$$

$$4x = 280$$

$$x = 70$$

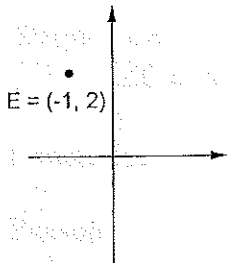
$$\begin{array}{r} 180 \\ - 70 \\ \hline \boxed{110^\circ} \end{array}$$

Geometry  
Chapter 2 Review

Name \_\_\_\_\_  
Date \_\_\_\_\_ Period \_\_\_\_\_

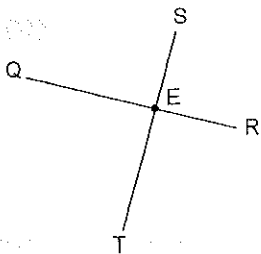
In problems 1-8, decide if each statement is True (T) or False (F):

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2. The supplement of an acute angle is obtuse. \_\_\_\_\_
3. An angle trisector divides an angle into two congruent parts. \_\_\_\_\_
4. If two angles are supplementary to the same angle, they are congruent. \_\_\_\_\_
5. Point A (-2,-1) is closer to point B (-2, 5) than it is to point C (1, -1). \_\_\_\_\_
6. Vertical angles are congruent to each other. \_\_\_\_\_
7. The vertex of  $\angle LMN$  is point L. \_\_\_\_\_
8. If congruent angles are bisected, the pieces are congruent. \_\_\_\_\_
9. Given point E at (-1,2), what are the coordinates of:



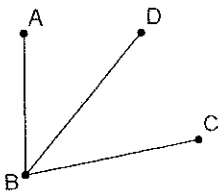
- (a) point F = E reflected over the x-axis: \_\_\_\_\_
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10. If  $\overline{QR} \perp \overline{ST}$ :



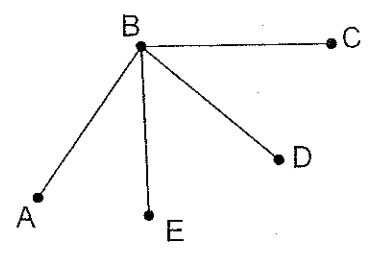
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12. The measure of  $\angle A$  is 120 and  $\angle B$  is supplementary to  $\angle A$ .  
 Find the measure of  $\angle C$  if  $\angle C$  is complementary to  $\angle B$ . \_\_\_\_\_

13. Fill in the missing reasons:  
 Given:  $\angle ABD$  is a right angle.  
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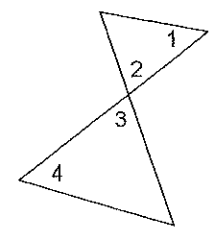


Statement	Reason
1. $\angle ABD$ is a right angle	1.
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3. $\angle ABD \cong \angle CBE$	3.
4. $\angle ABE \cong \angle CBD$	4.

14. Fill in the missing reasons: (no diagram needed for this proof)  
 Given:  $\angle L \cong \angle M$  and  $\angle M \cong \angle N$   
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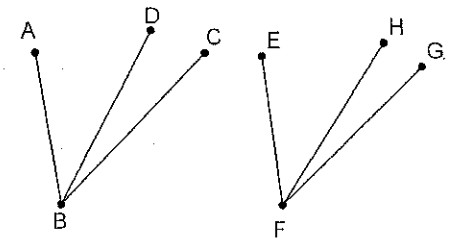
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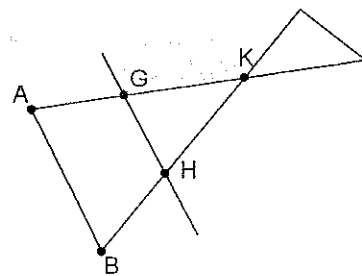
Conclusion: \_\_\_\_\_  
 Reason: \_\_\_\_\_



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Conclusion: \_\_\_\_\_

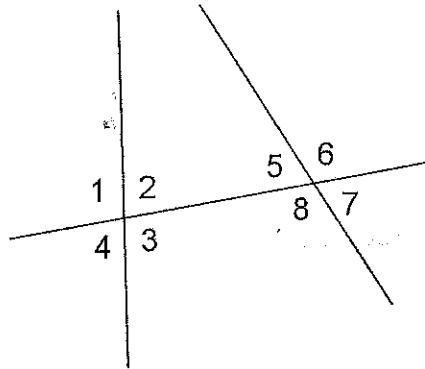
Reason: \_\_\_\_\_



18. Given:  $\angle 1 = 100^\circ$   
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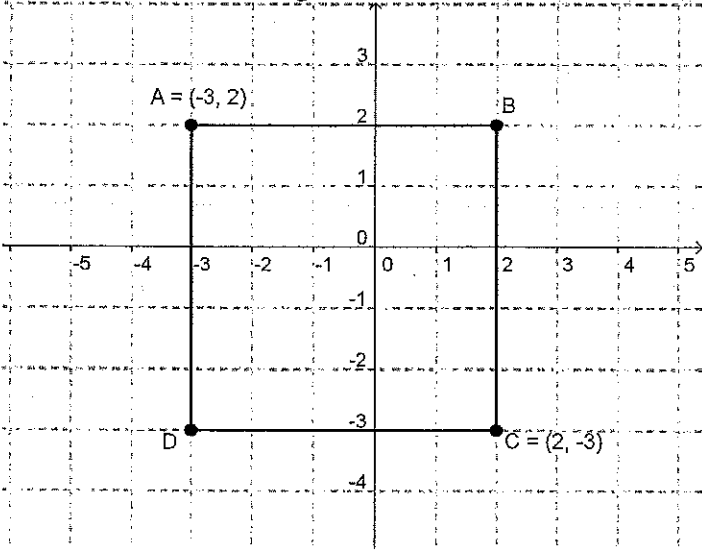


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Conclusion: \_\_\_\_\_

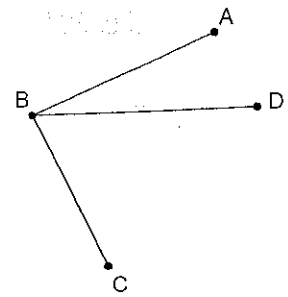
Reason: \_\_\_\_\_

20. ABCD is a rectangle.

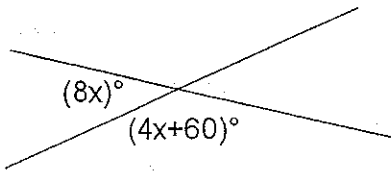


- (a) Find the coordinates of point B: \_\_\_\_\_  
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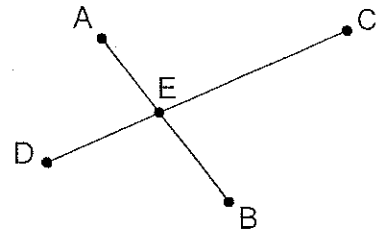


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Find:  $m\angle AEC$



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