Name: Key **Geometry Topic 1 Test Review** Period:_____ Date:_____

#1-6 The statements below are false. Circle the part that is incorrect and write the correction in the space provided.

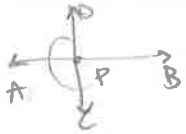
1. plane The three basic building blocks (undefined terms) of geometry are lines, rays, and points

2. $\overrightarrow{QP}$ "The ray from point R through points P and Q" is named as $\overrightarrow{RQ}$ or $\overrightarrow{PR}$.

3. PQ "The *length* of line segment PQ" is written as $\overline{PQ}$.

4. B The vertex of $\angle ABC$ is point A.

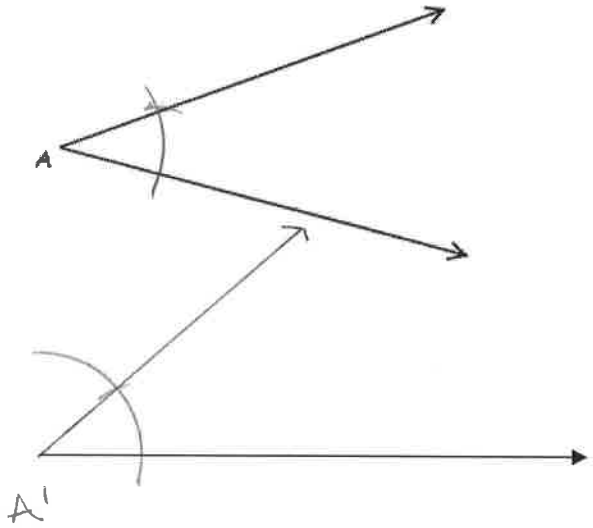
5. a linear pair If $\overleftrightarrow{AB}$ intersects $\overleftrightarrow{CD}$ at point P such that point P is between points A and B, and also between points C and D, then $\angle APC$ and $\angle APD$ are vertical angles.



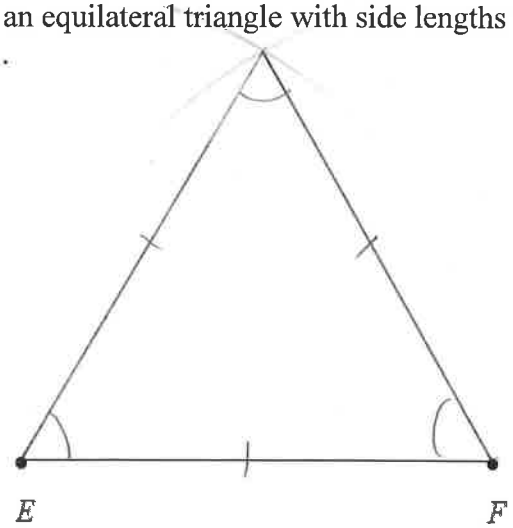
6. 167° If $m\angle D = 167°$, then the angle vertical to $\angle D$ has a measure of 13°.

#7-9 constructions

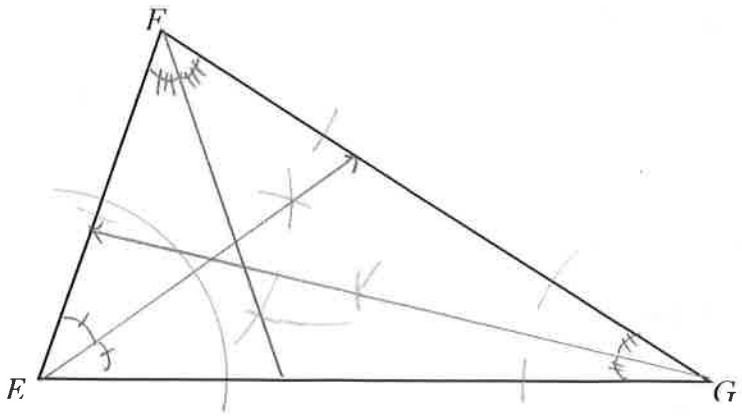
7. Copy $\angle A$ below on the ray provided.



8. Construct an equilateral triangle with side lengths equal to EF.

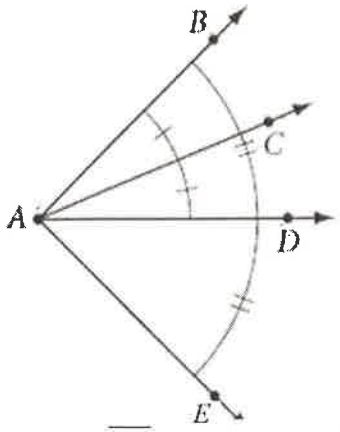


9. Construct all three angle bisectors in ΔEFG.



Name:_____ **Geometry Topic 1 Test Review** Period:_____ Date:_____

#10-14 Fill in the blank. Use the diagram to the right.



10. A is the Vertex of $\angle BAE$.
11. $\overline{AD}$ is the angle bisector of $\angle BAE$.
12. $\overline{AD}$ is a side of $\angle DAE$.
13. If $m\angle BAC = 42°$, then $m\angle CAE =$ $126°$.
14. $\angle DAB \cong$ $\angle DAE$.

#15-17 Calculate the midpoint (M) or the endpoint (B) of segment $\overline{AB}$ based on the given information:

15. $A(9, 5)$ and $B(17, 4)$

$M = \left(\frac{9+17}{2}, \frac{5+4}{2}\right)$

$M = (14, 4.5)$

16. $M(0, 5.5)$ and $A(-3, 6)$

$0 = \frac{-3+x_B}{2}$

$x_B = 3$

$5.5 = \frac{6+y_B}{2}$

$11 = 6 + y_B$

$5 = y_B$

$(3, 5) = B$

17. $M(-1, 5)$ and $A(-4, 3)$

$-1 = \frac{-4+x_B}{2}$

$-2 = -4 + x_B$

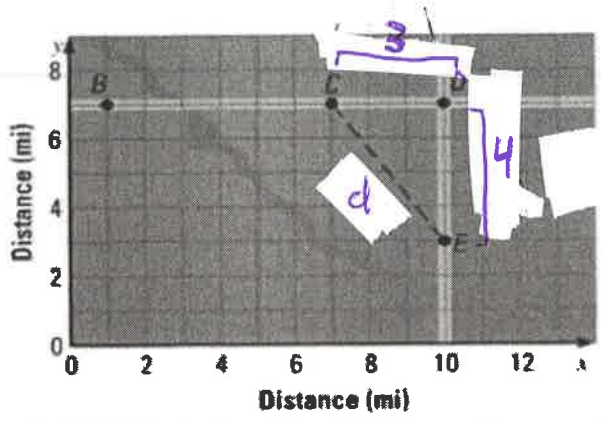
$2 = x_B$

$5 = \frac{3+y_B}{2}$

$7 = y_B$

$(-2, 7) = B$

18. While training for a marathon, you decide to run from your home at $E(10,3)$, through the park to $C(7,7)$, along the road to $D(10,7)$, and then straight back home. How far will you run?



$d = \sqrt{(10-7)^2 + (3-7)^2}$

$= \sqrt{9+16}$

$= \sqrt{25}$

$= 5$

$5 + 3 + 4 = 12$ miles

#19-20, use inductive reasoning to find the next term in the sequence. Explain the pattern used.

19. 2, 16, 128, 1024, 8,192

multiply by 8

20. 3, 5, 9, 15, 23, 33, 45

2 4 6 8 10 12

adding the next even #

Name:_____ **Geometry Topic 1 Test Review** Period:_____ Date:_____

#21-23 Fill in the blank

21. If two angles form a linear pair of angles, then the sum of their measures is 180°.

22. If two angles are vertical angles, then they are congruent.

23. If two angles are equal in measure and complementary, then each angle measures 45°.

#24-26, Underline the hypothesis and circle the conclusion in each conditional statement. Then write the converse of the given conditional statement. Decide if the converse is TRUE or FALSE. If it is false, identify a counterexample or draw a picture of a counterexample.

24. If two angles are complementary, then they are acute.

If two angles are acute, then they are complementary

False 30° + 30° = 60° not ∟,

25. If two angles are both right angles, then they are congruent.

If two angles are both congruent then they are right angles. False 45° + 45° not right

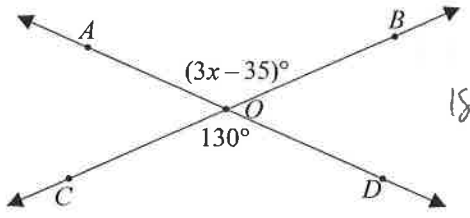
26. You play tennis if you are on the tennis team.

If you play tennis you are on the tennis team.

False you could just do it for fun

#27 and 28 use the figures given below to answer the indicated questions.

27. $x =$ 55 $m\angle BOD =$ 50°



180° − 130° = 50°

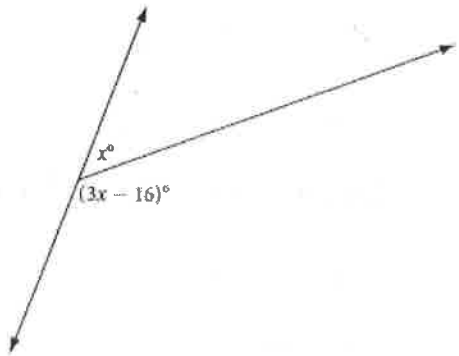
3x − 35 = 130

3x = 165

3 3

x = 55

28. $x =$ 49



x° + (3x − 16)° = 180°

(4x)° = 196°

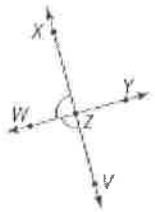
x = 49

Name:_____ **Geometry Topic 1 Test Review** Period:_____ Date:_____

29. Fill in the missing statements and reasons using the image at right. (You can use word bank to help).

Given: $\angle WZX \cong \angle WZV$ (see diagram to the right)
Prove: $WY \perp VX$

Statement	Reason
A. $\angle WZX \cong \angle WZV$	A. Given
B. $\angle WZX$ and $\angle WZV$ are a linear pair	B. Definition of Linear Pair
C. $m\angle WZX + m\angle WZV = 180$	C. Linear pair theorem
D. $m\angle WZX = m\angle WZV = 90$	D. supplementary congruent angles are right angles
E. $WY \perp VX$	E. Definition of $\perp$ lines



-Supplementary congruent angles are right angles -Linear Pair Theorem

$WY \perp VX$ $\angle WZX \cong \angle WZV$ $\angle WZX$ and $\angle WZV$ are a linear pair

30. Fill in the missing statements and reasons.

Given: $4(5n+7)-3n=3(4n-9)$
Prove: $n=-11$

Statement	Reason
A. $4(5n+7)-3n=3(4n-9)$	A. Given
B. $20n+28-3n=12n-27$	B. Distributive Property of Multiplication
C. $17n+28=12n-27$	C. Combine Like Terms
D. $5n+28=-27$	D. Subtraction property of equality
E. $5n=-55$	E. Subtraction Property of Equality
F. $n=-11$	F. division property of equality