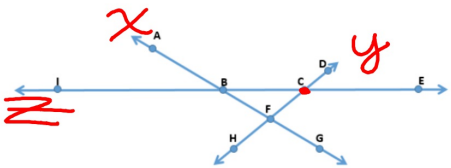
H. Geometry - Bellwork #6 **Date:** _____

1. Points that are on the same line are also called collinear pts
2. A line is a series of points that extends in opposite directions without end.
3. Two lines are || if they are noncoplanar and do not intersect.
4. A ray is the part of a line consisting of one endpoint and all points in one direction.

Use the figure at the right to answer questions 5-7.

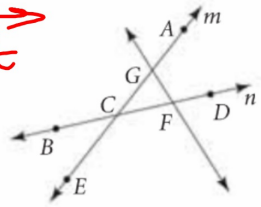


5. Name line x in 3 other ways.
   i) $\overleftrightarrow{AG}$
   ii) $\overleftrightarrow{GA}$
   iii) line AG
6. Line y and line z intersect at point C.
7. Are the following points collinear? (Yes or No) If yes, name the line on which they lie.

a.) A, B, G yes line x b.) A, B, C No

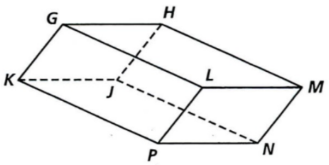
Use the figure at the right to answer questions 8-10. Be sure to use proper symbols!

8. Name line m two other ways. $\overleftrightarrow{AE}$ $\overleftrightarrow{EA}$
9. Name two line segments. $\overline{GC}$ $\overline{BD}$
10. Name a pair of opposite rays. $\overrightarrow{GA}$ $\overrightarrow{GE}$

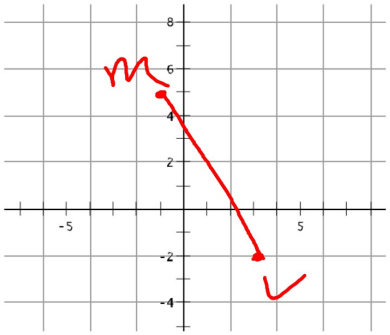


Use the figure at the right to answer questions 11-14.

11. Plane JKPN and Plane GHJK intersect at $\overline{JK}$.
12. Plane HML and Plane PNL intersect at $\overline{LM}$.
13. L, P, K, and G are coplanar.
14. Plane KJH and Plane LMH intersect at $\overline{GH}$.



20. **REINFORCE** Draw and label $\overline{LM}$ where **L** has coordinates (3,-2) and **M** has coordinates (-1,5).



21. **REINFORCE** Suppose ∠**A** and ∠**B** are complementary angles, m∠**A** = (3***x*** + 5)°, and m∠**B** = (2***x*** - 15)°. Solve for ***x*** and then find m∠**A** and m∠**B**.

$\angle A + \angle B = 90$ (65°)

$3x + 5 + 2x - 15 = 90$

$5x - 10 = 90$

$5x = 100$

$x = 20$

$m\angle A = 65°$

$m\angle B = 25°$

22. **REINFORCE** The measure of the supplement of an angle is 12 more than twice the measure of the angle. Find the measures of the angle and its supplement.

$x =$ ∠ measure

$180 - x =$ (124°)

$180 - x = 2x + 12$

$180 = 3x + 12$

$168 = 3x$

$x = 56°$

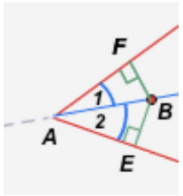
23. Write a definition for ***angle bisector***, and then sketch an example.

a line, ray, or segment that divides the ∠ into 2 ≅ ∠s

24. What is a ***conjecture***?

a statement that we believe to be true based on observation

28. **REINFORCE** In the diagram, $\overline{AB}$ bisects $\angle FAE$. $BF = 5x$ and $BE = x^2 + 6$. Solve for x.



$BF = BE$

$5x = x^2 + 6$

$x^2 - 5x + 6 = 0$

$(x-2)(x-3) = 0$

$x = 2, 3$