Cedar Grove High School
Mathematics Department

Summer Assignment

GEOMETRY HONORS

This packet is intended for students who are ENTERING the course "Geometry HONORS" in September and took Algebra I as an 8th grader or 9th grader.

The problem set is based on standards met in Grades 7, 8 and Algebra I.

*For each day late, 5% of the total point value will be deducted.

Any questions or concerns may be directed to our Math/Science Supervisor Janine Barboza at barboza.janine@cgschools.org.

Welcome to Honors Geometry!

Attached is the summer work problem sets for Chapter 1. This work will count as a **Quiz Grade** for marking period 1. *Most* of what you will see in this chapter, you have seen before at some point in your mathematical career. Please print these out and answer directly in the packet. You will need to use the online textbook to help you answer these problems.

Online Textbook
http://my.hrw.com/
Username: moogangeo
Password: geometry

Once logged into the online resource, use the "book pages" tab to work your way through Chapter 1. Use the internet and your peers as a resource to work through. Please complete these to the best of your ability before school begins in September. We will be reviewing these 5 sections *briefly* during the first few class periods and there will be an assessment to follow. You may use a calculator if you wish. The TI-84 (or newer) is the calculator you will need for your math classes in high school. Good Luck!

Before you begin Honors Geometry, you will be expected to have **mastered** the following topics:

- 1.1: Identify Points, Lines, and Planes
- 1.2: Use Segments and Congruence
- 1.3: Midpoint and Distance Formula
- 1.4: Measure and Classify Angles
- 1.5: Describe Angle Pair Relationships

This year will be challenging and a lot of work for you. But if you have a good attitude and work ethic it can also be a fun and rewarding course to set you on course for the honors track here at Cedar Grove High School. See you soon!

Mr. Moogan

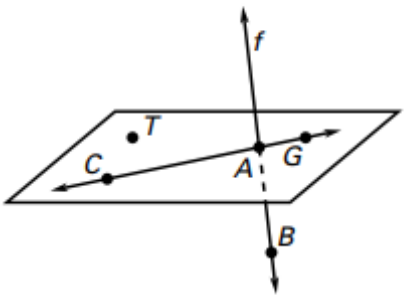
Name: _____ Date: _____

Honors Geometry Summer Assignment

Part A

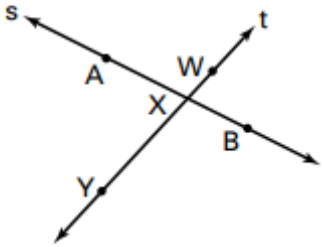
In Exercises 1–3, use the diagram.

1. Give two other names for $\overleftrightarrow{AB}$.
2. Name three points that are collinear.
3. Name a point not coplanar with A, C, and T.



In Exercises 4-6, use the diagram.

4. What is another name for $\overleftrightarrow{XW}$?
5. Name all rays with endpoint X.
6. Give another name for $\overleftrightarrow{WX}$.



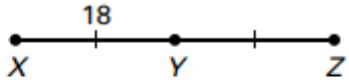
Measure the length of the segment to the nearest tenth of a centimeter.

7.

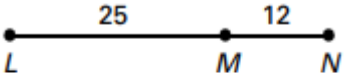
8.

Find the indicated length.

9. YZ



10. LN



Find the exact distance between the points.

11. $A(2, 3)$ and $B(4, 9)$
12. $F(-4, 6)$ and $G(1, 8)$

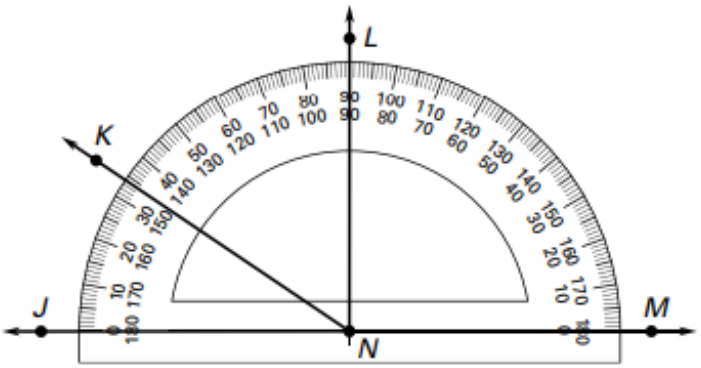
Find the coordinates of the midpoint of the segment with the given endpoints.

13. $A(-1, 4)$ and $B(3, 6)$
14. $C(2, -3)$ and $D(-4, -1)$

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

In Exercises 15–17, use the diagram to find the measure of the indicated angle. Then classify the angle.



15. $\angle JNK$ **16.** $\angle KNM$ **17.** $\angle LNM$

In Exercises 18–20, $\angle 1$ and $\angle 2$ are complementary angles. Given the measure of $\angle 1$, find $m\angle 2$.

18. $m\angle 1 = 87°$ **19.** $m\angle 1 = 15°$ **20.** $m\angle 1 = 71°$

In Exercises 21–23, $\angle 1$ and $\angle 2$ are supplementary angles. Given the measure of $\angle 1$, find $m\angle 2$.

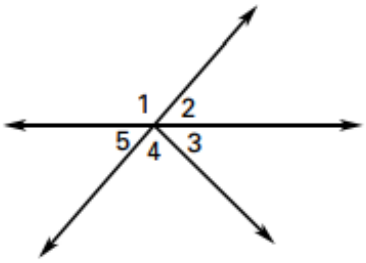
21. $m\angle 1 = 8°$ **22.** $m\angle 1 = 87°$ **23.** $m\angle 1 = 115°$

In Exercises 24–26, use the diagram. Tell whether the angles are *vertical angles*, a *linear pair*, or *neither*.

24. $\angle 1$ and $\angle 2$

25. $\angle 2$ and $\angle 5$

26. $\angle 1$ and $\angle 4$



Answers

15. _____

_____

16. _____

_____

17. _____

_____

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

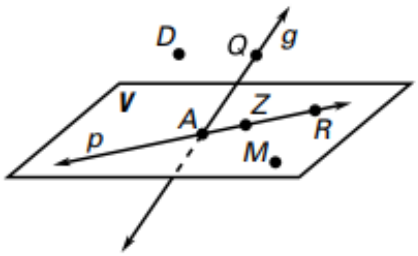
25. _____

26. _____

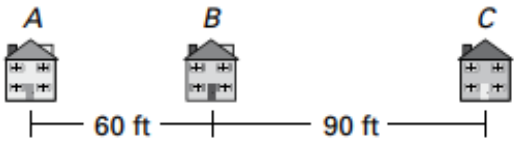
Part B

In Exercises 1–3, use the diagram to decide whether the statement is *true* or *false*.

1. Point R lies on line g.
2. Points A, M, R, and Z are coplanar.
3. Points A and Q are collinear.

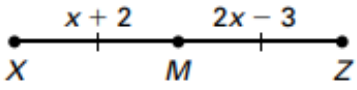


4. The diagram shows three houses on a street. Find the distance from House A to House C.

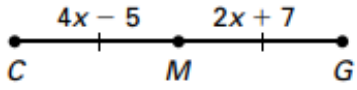


In each diagram, *M* is the midpoint of the segment. Find the indicated length.

5. XM

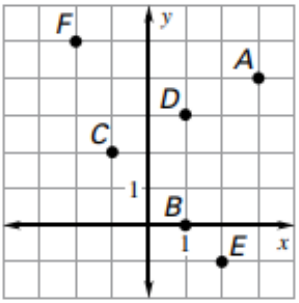


6. CG



Find the exact distance between the points.

7. A and B
8. C and F
9. D and E



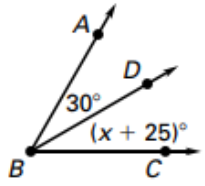
Use the endpoint and midpoint M of the segment to find the coordinates of the other endpoint.

10. $\overline{AB}$; $A(-1, 3)$, $M(3, 1)$

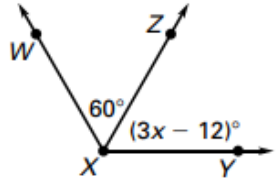
11. $\overline{CD}$; $C(-2, -3)$, $M(-4, 2)$

Use the given information to find the value of *x*.

12. $\angle ABD \cong \angle DBC$



13. $\angle WXZ \cong \angle ZXY$



Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____

14. Given that $\angle 1$ is a complement of $\angle 2$ and $m\angle 2 = 17°$, find $m\angle 1$.

15. Given that $\angle 3$ is a supplement of $\angle 4$ and $m\angle 3 = 46°$, find $m\angle 4$.

16. Two angles form a linear pair. The measure of one angle is four times greater than the measure of the other angle. Find the measure of each angle.

17. Two angles form a linear pair. The measure of one angle is six more than twice the measure of the other angle. Find the measure of each angle.

Answers

14. _____

15. _____

16. _____

17. _____

Solve the following equations.

18. $x^2 - 5x - 36 = 0$

19. $3x^2 + 10x - 8 = 0$

Evaluate the following. Show all of your steps and leave your answer as a simplified fraction.

20. $\frac{3}{4} + \frac{7}{10}$

21. $\frac{-17}{13} - 2$

22. $3\frac{2}{3} + \frac{8}{5}$

Graph the equation on the coordinate plane. Then graph one line that is parallel and one line that is perpendicular to the given equation.

23. $y = -2x - 3$