

Honors Geometry 10 Students and Parents,

Mrs. Dinnon and Mr. Ball would like to welcome you to Honors Geometry 10. Honors Geometry 10 is an accelerated course and based on the limited time and the speed of the course, it is essential incoming students get a head start by completing Chapters 1-3 and 9 on their own. We have compiled a set of questions designed to aid students in their understanding and prepare them for what is expected when school begins in August.

Grade 10%

Completion of packet = 5% of your semester grade

Test over the packet = 5% of your semester grade

Due Date

The first full day of class in the fall

Test over packet material

4 days after the packet is due

Dates for Questions

Please email any questions to one of the teachers. We would be happy to get back to you as soon as we can.

Need Help?

You can access the book online. Go to www.argohs.net. Click on Departments, then Math, then Honors Geo 10 Book Online.

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We are looking forward to seeing you this fall,



Mrs. Molly Dinnon



Mr. Scott Ball

Section 1.1 pp. 2-4

Provide a definition and Notation (symbols) along with illustrations for each of the following.

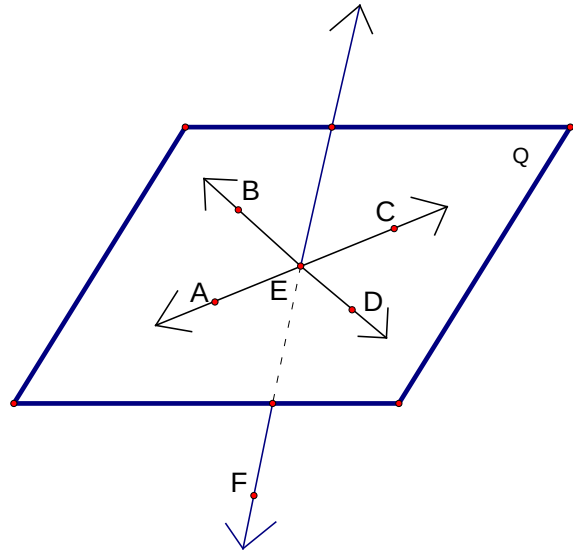
Vocabulary Word	Definition	Notation	Illustration
Point			
Line			
Plane			
Collinear Points			
Coplanar Points/Lines			
Congruent Segments			
Line Segment			
Ray			
Opposite Rays			

Section 3.1 p. 139

Vocabulary Word	Definition	Notation	Illustration
Parallel Lines			
Skew Lines			
Parallel Planes			

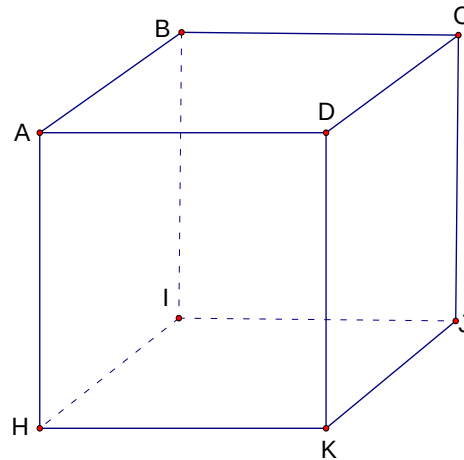
Practice 1.1 & 3.1, ALSO READ SECTION 2.4 Postulates—G.B.1
Use the figure at the right to answer the questions below

1. List three collinear points
2. List three noncollinear points
3. What are two other names for Plane Q
4. Are the following sets of points coplanar?
 - a) B, E, C
 - b) C, E, D
 - c) C, D, F



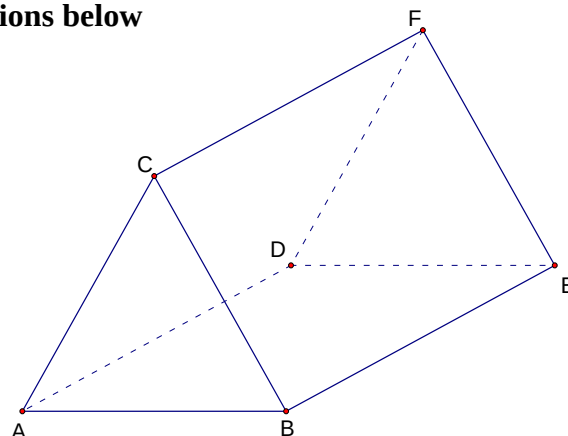
Use the figure at the right to answer the questions below

1. Name all segments parallel to $\overline{DC}$
2. Name all segments skew to $\overline{IJ}$
3. Name two planes that intersect Plane ABIH



Use the figure at the right to answer the questions below

1. Name all planes parallel to Plane CAB
2. Name the intersection of Plane CAB and Plane CFDA
3. Name 3 points collinear with Point F



Sections 1.2, 1.4, 1.5, 2.7*Match each word with its definition***A. Angle**

1. _____ angles having the same measure

B. Acute angle

2. _____ two angles whose measures have sum 180

C. Right angle

3. _____ formed by two rays having the same endpoint

D. Obtuse angle

4. _____ angle measuring less than 90 degrees

E. Straight angle

5. _____ angle measuring 180 degrees

F. Congruent angles

6. _____ angle measuring exactly 90 degrees

G. Vertical angles

7. _____ two angles whose measures have sum 90

H. Adjacent angles

8. _____ two angles whose sides are opposite rays

I. Complementary angles9. _____ If B is a point in the interior of $\angle AOC$ then
 $(m\angle AOB) + (m\angle BOC) = (m\angle AOC)$ **J. Supplementary angles**

10. _____ angle measuring more than 90 degrees

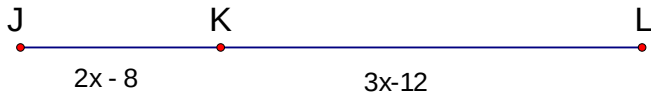
K. Angle addition postulate

11. _____ two coplanar angles with a common side, a common vertex, and no common interior points

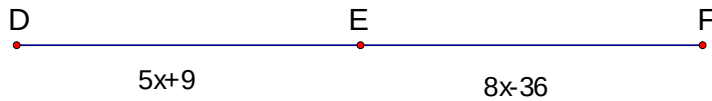
L. Segment Addition Postulate12. _____ If three points A, B and C are collinear and B is between A and C, then $AB + BC = AC$

Sections 1.2, 1.4, 1.5, 2.7 Practice Problems-G.B.3, G.B.4, G.C.5

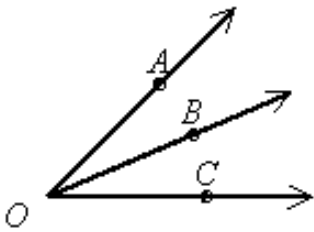
1. If $JL = 60$ find the value of x and the length of segments JK and KL



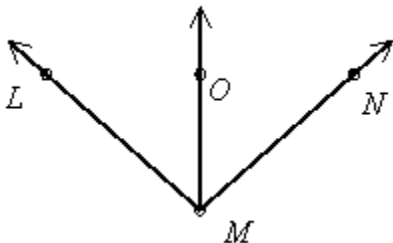
2. E is the midpoint of $\overline{DF}$. Find DF, DE, and EF



3. If $m\angle BOC = 33$ and $m\angle AOC = 53$, then what is the measure of $\angle AOB$? The diagram is not to scale.



4. $\overrightarrow{MO}$ bisects $\angle LMN$, $m\angle LMO = 8x - 28$, and $m\angle NMO = 2x + 32$. Solve for x and find $m\angle LMN$. The diagram is not to scale.



Section 1.3 G.B.7, G.B.8

Record the Distance formula: _____

Record the Midpoint formula: _____

1. Use the distance formula to find the distance between the two points

a. $(1,5)(-3,1)$

b. $(-7,-10)(-3,-6)$

2. Use the midpoint formula to find the midpoint of the segment formed by two points.

a. $(10,-3)(6,-5)$

b. $(7,0)(0,-10)$

Section 2.2 G.I.1, G.I.2, G.I.5, G.I.7, G.I.8

A **conditional statement** is another name for an if-then statement. Here are some examples.

- If I practice shooting free throws, then I will improve.
- If I go shopping around the Holidays, then the stores will be crowded.

The “If” part of the statement is known as the **hypothesis**. The “Then” part is known as the **conclusion**.

Identify the hypothesis and conclusion in the examples below.

1. If it is January, then there are 31 days in the month.



Write the following statements as a conditional statement

3. The measure of a right angle is 90 degrees.

4. A quadrilateral has 4 sides.

Give a definition and example for the following terms

5. Converse:

6. Counterexample:

7. Biconditional:

Find a counterexample for each statement below.

8. If $x^2 = 16$, then $x = 4$.

9. If it is February, then there are 28 days in the month.

10. If a quadrilateral has 4 right angles, then it is a square.

11. If two lines do not intersect, then they are parallel.

Write the converse for the following statements:

12. If two angles are supplementary, then their combined measure is 180 degrees.

Determine whether the following conditional and its converse are true. If both are true, combine them as a biconditional. If either is false, give a counterexample.

13. Conditional: *If two lines are coplanar, then they are on the same plane.*

Converse: *If two lines are on the same plane, then they are coplanar.*

Biconditional or counterexample: _____

14. Conditional: *If two angles are vertical angles, they are congruent.*

Converse: *If two angles are congruent, they are vertical angles.*

Biconditional or counterexample: _____

Sections 2.5 & 2.6

Know all the properties including...

- Addition property of Equality
- Subtraction property of Equality
- Multiplication property of Equality
- Division property of Equality
- Reflexive property
- Symmetric property
- Transitive property
- Substitution property
- Commutative property of addition and multiplication
- Associative property of addition and multiplication
- Distributive property

Name the property that justifies each statement.

1. $\angle A \cong \angle A$

2. If $A = B$, then $B = A$

3. If $3x + 14 = 80$, then $3x = 66$

4. $8 + x + 11 = x + 8 + 11$

5. If $a = 6$ and $6 = g$, then $a = g$

6. $10(m\angle D) = 130$, then $m\angle D = 13$

7. $(2 + 5) + x = 2 + (5 + x)$

8. If $\frac{1}{3}CD = BC$, then $CD = 3BC$

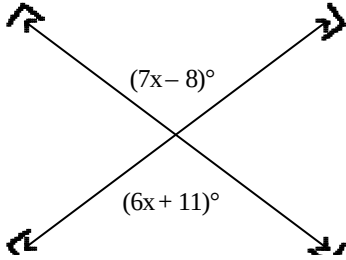
9. If $x + 9 = 13$ and $x = 4$, then $(4) + 9 = 13$

Solve for x . Name which property you are using for each step.

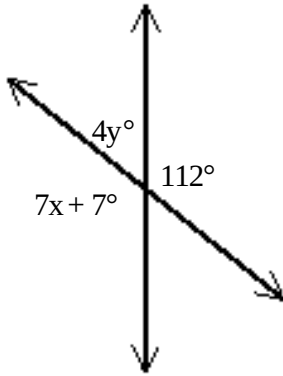
10. $21 = \frac{1}{2}(8x - 18) - x$

Section 2.7 G.C.3, G.C.4

1. Find the value of x .



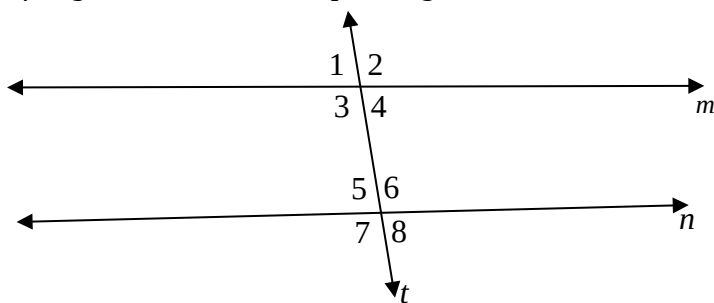
2. Find the values of x and y .



3. $\angle A$ is eight times larger than its supplement $\angle B$. Find the measure of each angle. Label your answers.

Section 3.1 G.D.3

Classify each pair of angles as either corresponding, alternate exterior, alternate interior or same side interior.

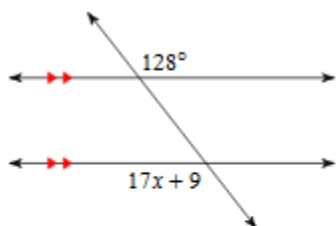


1. $\angle 3$ and $\angle 5$
2. $\angle 4$ and $\angle 8$
3. $\angle 2$ and $\angle 7$
4. $\angle 4$ and $\angle 5$
5. $\angle 6$ and $\angle 2$
6. $\angle 1$ and $\angle 8$

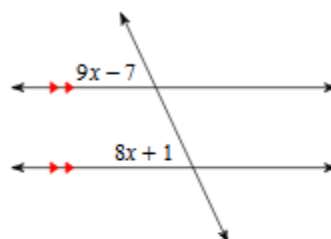
Section 3.2 G.D.4

Solve for x .

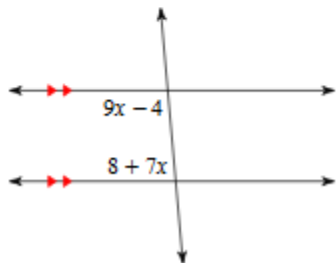
1)



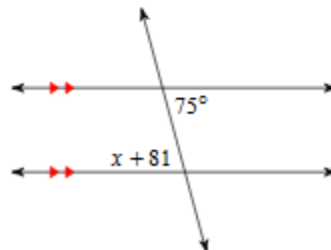
2)



3)



4)



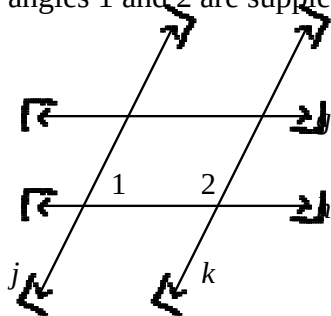
Section 3.3

Assume that in the picture above lines m and n are parallel

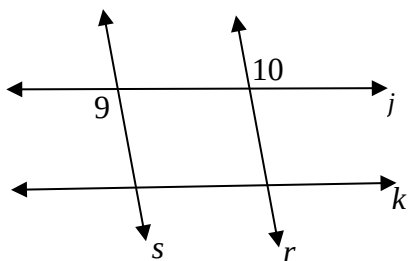
1. Let $\angle 1 = 7x - 24$ and $\angle 5 = 3x + 26$ in the figure above.

a. Find the value of x .

2. If angles 1 and 2 are supplementary which lines are parallel?



3. In the diagram below, $\angle 9 \cong \angle 10$. Which lines must be parallel? Justify your answer in complete sentences.

**Section 4.1 G.F.1, G.F.2, G.F.3**

Describe and draw an example of each type of triangle.

1. Acute triangle

2. Obtuse triangle

3. Right Triangle

Make appropriate markings on congruent sides

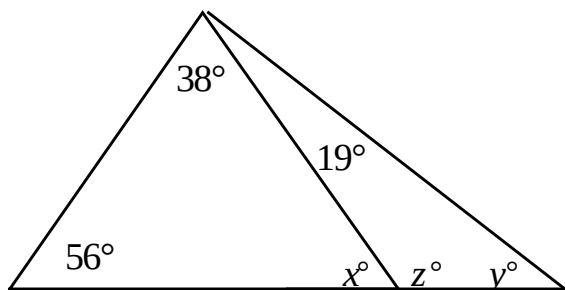
4. Isosceles triangle

5. Equilateral triangle

6. Scalene triangle

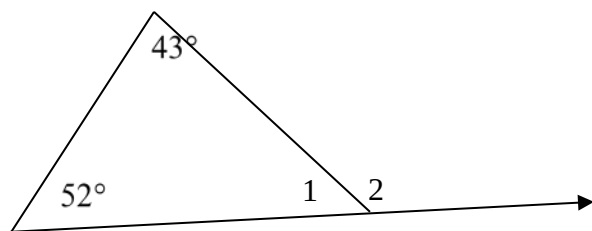
Use the triangle sum theorem to help answer the questions below.

7. Find the measure of x , y and z .

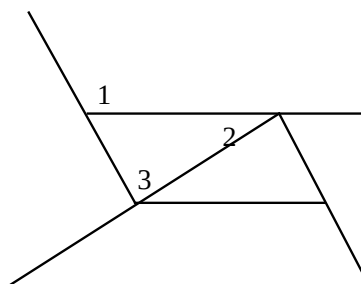


Use the exterior angle theorem to help answer the questions below

8. Find the measure of angles 1 and 2



9. The picture at the right displays a folding chair where the $m\angle 2 = 26^\circ$ and the $m\angle 3 = 70^\circ$. Find the measure of angle 1.



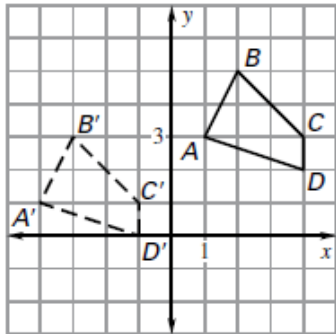
Chapter 9 TRANSFORMATIONS G.L.1, 2, 3, 4, 5, 7, 8, 10, G.Y.3

Provide a definition along with notation/illustration for each of the following

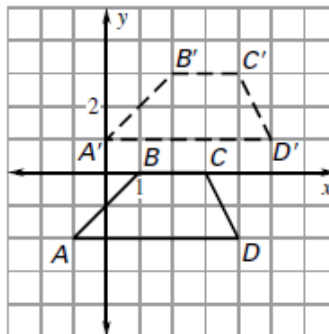
Vocabulary Word	Definition	Notation or Illustration
Image		
Preimage		
Isometry		
Vector		
Component Form		
Translation		
Reflection		
Line of Reflection		
Rotation		
Glide Reflection		
Composition of Transformations		

Quadrilateral $A'B'C'D'$ is the image of $ABCD$ after a translation. Write a rule for the translation.

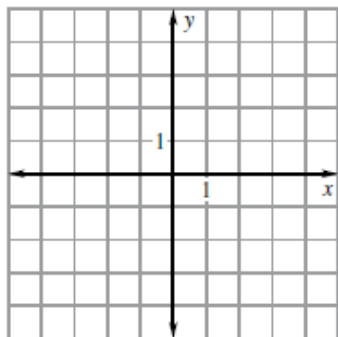
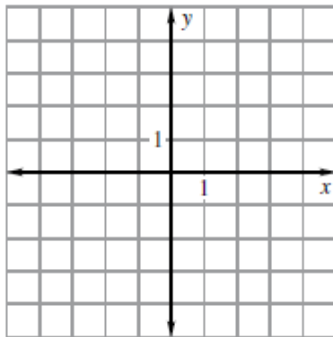
1.



2.



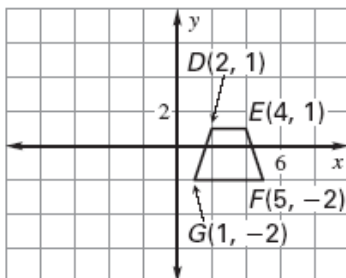
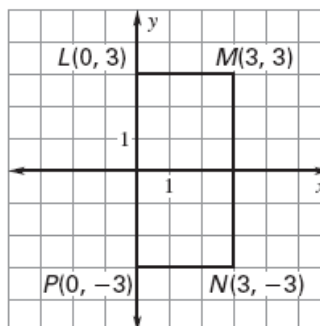
The vertices of $\triangle PQR$ are $P(-2, 3)$, $Q(1, 2)$, and $R(-3, 0)$. Translate $\triangle PQR$ using the given vector. Graph $\triangle PQR$ and its image.

3. $\langle 2, -2 \rangle$ 4. $\langle -1, -3 \rangle$ 

For #5-8 Use the translation $(x, y) \rightarrow (x + 6, y - 3)$.

5. What is the image of $A(3, 2)$?6. What is the image of $B(-4, 1)$?7. What is the preimage of $C'(2, -7)$?8. What is the preimage of $D'(-3, -2)$?

Graph the reflection of the polygon in the given line.

9. y -axis10. $x = 2$ 

Quadrilateral $STUV$ has vertices $S(-4, -2)$, $T(-1, -1)$, $U(1, -3)$, and $V(-2, -5)$. Find the vertices of $S'T'U'V'$ after the given counterclockwise rotation about the origin.

11. 90°

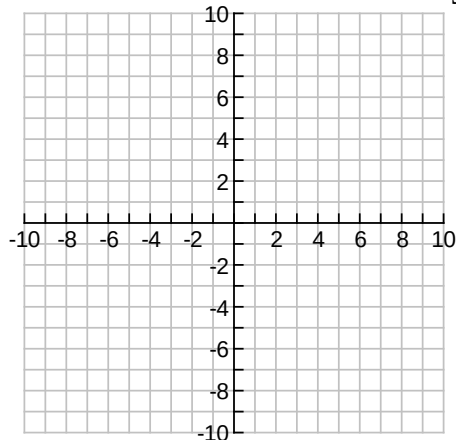
12. 180°

13. 270°

In Exercises 14-16, the vertices of quadrilateral $ABCD$ are $A(-4, 3)$, $B(-1, 3)$, $C(-3, 1)$, and $D(-4, 1)$. Find the vertices of $A''B''C''D''$ after a composition of the transformations in the order they are listed.

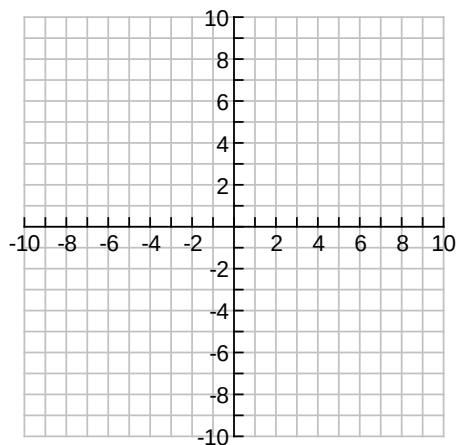
14. Translation: $(x, y) \rightarrow (x + 2, y - 3)$

Translation: $(x, y) \rightarrow (x - 1, y + 5)$



15. Translation: $(x, y) \rightarrow (x + 4, y + 1)$

Reflection: in the x -axis



16. Reflection: in the y -axis

Rotation: 180° about the origin

