Anagha's Math Level 8 - Week 10

We specialize in Advanced & School Level Math coaching for Grades: K- 12
In-person & Online Math Group classes, Privates, Semi-Privates
Our Mission: To educate, motivate and encourage every student to excel in mathematics.
Email: admin@anaghasmath.com Website: https://www.anaghasmath.com
Phone: (908)705-5397 & (425)830-9664
Correspondence Address: 7040 Cascade Ave SE, Snoqualmie, WA 98065

Topics covered in class	Pages explained in class	Required Homework pages (2 Moola point)
*Review of concepts covered in the previous weeks	Difficult concepts from this packet will be reviewed in class and the rest of the packet is homework.	Full packet is required homework this week

Test 1 will be conducted during regular class next week.
Use Answer-keys posted on Teams for Weeks 9 and 10. They are the review materials for Test 1

Test 1 Information:

- Test 1 in Week 11 during regular class. Study material in Weeks 9 and 10 packet.
- Sample test available for practice on Teams General channel during week 10.

For Online Students:

- Test link on Teams General channel. It will be Active only during class time.
- Latecomers may not complete the test. Tests that are submitted cannot be retrieved by us.
- Report cards will be posted on student channels by week 12.

For In-person Students:

- Paper test during regular class. Graded tests will be returned by week 12.

Moola Credits:

- Level K-5 (15 Moolas): $5 Amazon Gift Card. Level 6-9 (15 Moolas): Five extra test points.

Make-up Tests and Other Test-related Information:

- Missed class, take the test in make-up class.
- At-home make-up/retake test link emailed to parents on Friday evening.
- Must be taken under parent supervision by Sunday night.
- Writing supplies are allowed for all levels.
- **Grades K-6 Intermediate:** No calculators, media devices, or reference materials.
- **Grades 6 Adv-10:** No media devices/reference materials, but calculators allowed.

"Success during a test depends on the preparation put in before the test."

**** GOOD LUCK TO ALL STUDENTS****

Teacher/ TA Homework Grading & Comments:
For In-Person student use only

STUDENT NAME: _____

Students, complete homework to the best of your ability & check work using the answer keys posted in TEAMS.

Has the student checked packet using Answer Key?	Required homework (1 Moola earned)	Extra credit homework (1 Moola earned)	Total Moolas earned this week.	Teacher/TA Name
Yes / No	Yes / No	Yes / No	0 1 2	

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About Us:

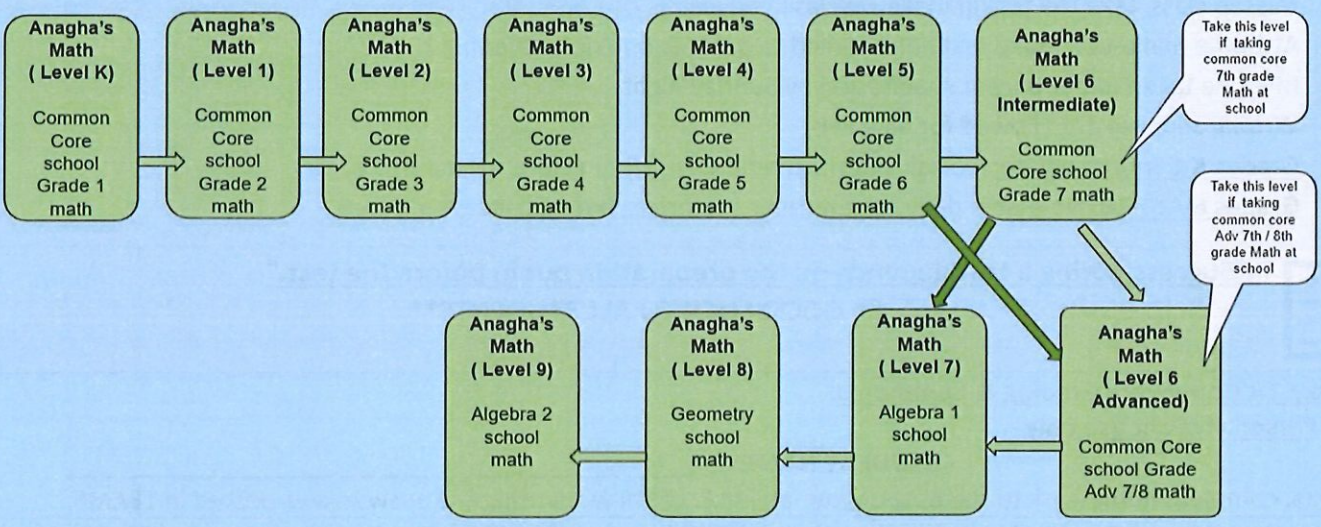
- We offer Advanced and School level math coaching to students from kindergarten to 12th grade.
- Classes are conducted In-person & online as small groups, private & semi-private tutoring throughout the year.
- Our teaching methodology and course curriculum enables students to learn mathematical fundamentals and concepts at their very foundations.
- This ensures a love for mathematics which then naturally flows into a successful school year with excellent grades.
- Anagha's Math Classes started with just a handful of students in Snoqualmie, WA. USA over 10 years ago.
- Today we have more than six hundred students nationwide and are still growing!
- The biggest compliment is our students continue with us over years till the end of the program.
- We are completely student-need focused and make our children be confident and independent Mathematicians!

Why our program is so effective?

- Our students develop lifelong critical thinking skills.
- Our curriculum not only meets common core requirements but also provides graduated challenges to those sharp eager minds!
- We are not dictated by any corporate office to deliver a set pattern of teaching material to our students.
- We have the flexibility to adapt our curriculum to match that of multiple school districts in USA.

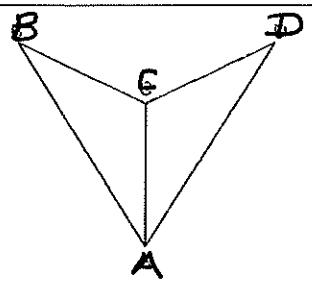
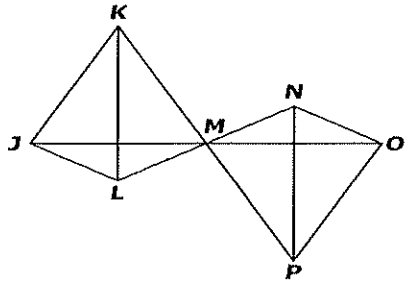
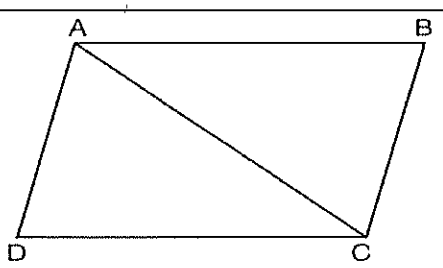
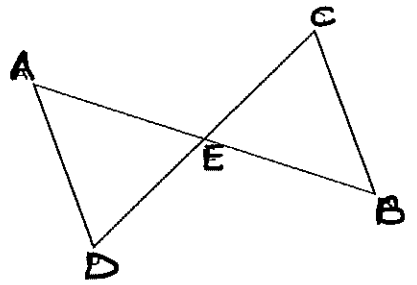
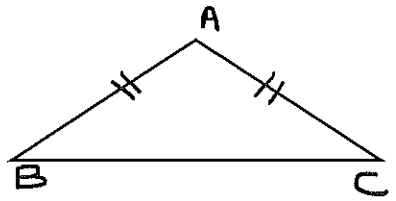
Congrats to all our students! 95% of our students are in Advanced math at school.

Anagha's Math flowchart in comparison to school grades in USA



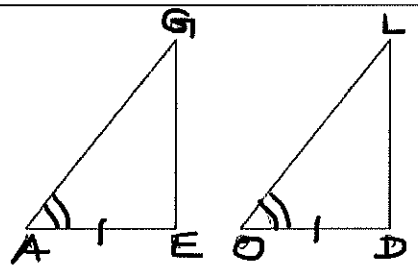
Program Highlights

- We offer in-person and online classes (Academic year and Summer programs).
- Unique one of a kind curriculum specifically designed to go beyond the needs of any school district in in United States.
- Our teaching style inculcated understanding on mathematics in a way that grows student confidence and ensures academic success.
- Experienced teachers who teach tips and tricks to mentally compute and/or solve problems in step by step manner.

1)		As shown in the diagram, AC bisects ∠BAD and ∠B ≅ ∠D. Which method could be used to prove Triangle ABC ≅ Triangle ADC? 1) SSS 2) AAA 3) SAS 4) AAS
2)		Given: M is the midpoint of segments LN and KP The given information is sufficient to prove $\Delta KML \cong \Delta PMN$ by which postulate/theorem? a) Angle-Side-Angle b) Side-Side-Side c) Side-Angle-Side d) Angle-Angle-Side
3)		In the diagram of quadrilateral ABCD, seg AB is parallel to seg CD, ∠ABC ≅ ∠CDA, and diagonal AC is drawn. Which method can be used to prove ABC is congruent to CDA? 1) AAS 2) SSA 3) SAS 4) SSS
4)		In the diagram ΔDAE and ΔBCE, seg AB and seg CD intersect at E, such that AE ≅ CE and DE ≅ ∠BE. Triangle DAE can be proved congruent to triangle BCE by 1) ASA 2) SAS 3) SSS 4) HL
5)		In the diagram ΔABC, Seg AB ≅ Seg AC, m∠A = 3x, and m∠B = x + 20. What is the value of x? a) 10 b) 28 c) 32 d) 40
6)	Which is the contrapositive to the statement: If n is odd, then $(n^2 + 2n + 1)$ is even.	A. If $(n^2 + 2n + 1)$ is odd, then n is even. B. If $(n^2 + 2n + 1)$ is even, then n is odd. C. If n is even, then $(n^2 + 2n + 1)$ is odd. D. If n is even, then $(n^2 + 2n + 1)$ is even.

8/10 Pg 1

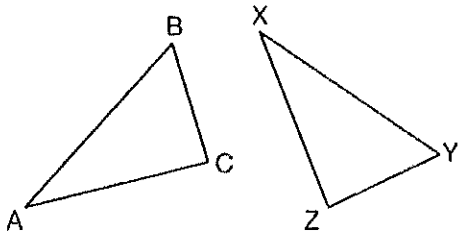
1)



In the diagram, ΔAGE and ΔOLD, $\angle GAE \cong \angle LOD$, and $AE \cong OD$. To prove that ΔAGE and ΔOLD are congruent by SAS, what other information is needed?

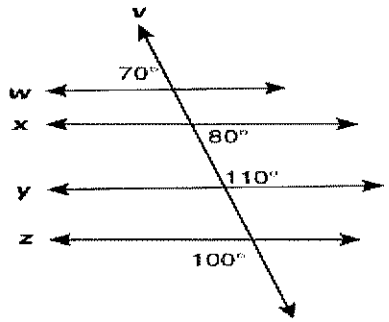
1) $GE \cong LD$
2) $AG \cong OL$
3) $\angle AGE \cong \angle OLD$
4) $\angle AEG \cong \angle ODL$

2)



In the diagram, $\Delta ABC \cong \Delta XYZ$.
Which two statements identify corresponding congruent parts for these triangles?
1) $AB \cong XY$ and $\angle C \cong \angle Y$
2) $AB \cong YZ$ and $\angle C \cong \angle X$
3) $BC \cong XY$ and $\angle A \cong \angle Y$
4) $BC \cong YZ$ and $\angle A \cong \angle X$

3)



Line v is a transversal , which of the following statements are true?

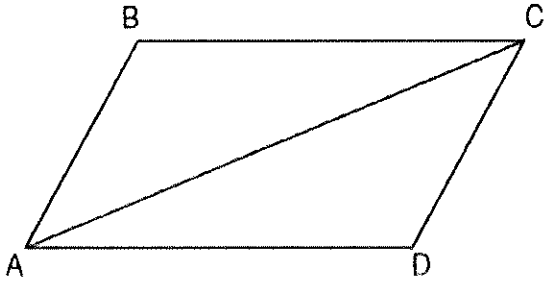
F $w \parallel y$ and $x \parallel z$

G $w \parallel x$ and $y \parallel z$

H $w \parallel z$ and $x \parallel y$

J $w \parallel x$ and $x \parallel y$

4)



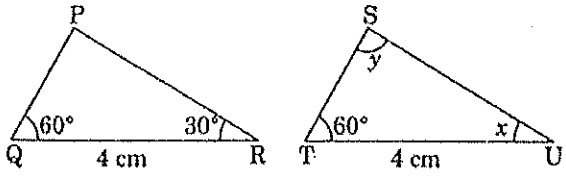
Statement	Reason
1. ABCD is a parallelogram.	1. Given
2. $\overline{BC} \cong \overline{AD}$ $\overline{AB} \cong \overline{DC}$	2. Opposite sides of a parallelogram are congruent.
3. $\overline{AC} \cong \overline{CA}$	3. Reflexive Postulate of Congruency
4. $\triangle ABC \cong \triangle CDA$	4. Side-Side-Side
5. $\angle B \cong \angle D$	5. _____

Given that ABCD is a parallelogram, a student wrote the proof below to show that a pair of its opposite angles are congruent.

What is the reason justifying that $\angle B \cong \angle D$?
1) Opposite angles in a quadrilateral are congruent.
2) Parallel lines have congruent corresponding angles.
3) Corresponding parts of congruent triangles are congruent.
4) Alternate interior angles in congruent triangles are congruent.

8/10 Pg (2)

1)

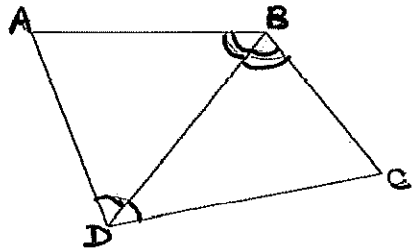


$\Delta PQR \cong \Delta STU$

$x =$ _____ and $y =$ _____

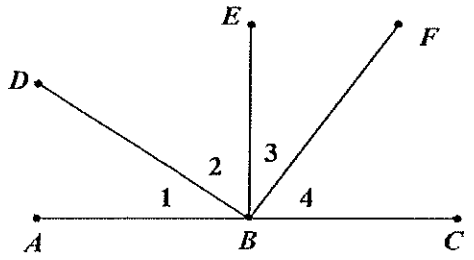
In the given congruent triangles under **ASA postulate**, find the value of x and y, $\Delta PQR \cong \Delta STU$.

2.)



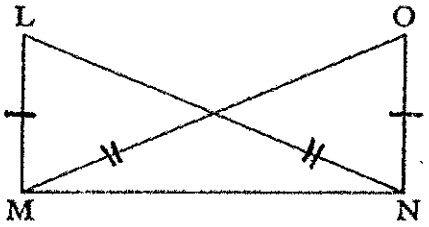
The diagram below shows a pair of congruent triangles, with $\angle ADB \cong \angle CDB$ and $\angle ABD \cong \angle CBD$.
Which statement must be true?
1) $\angle ADB \cong \angle CBD$
2) $\angle ABC \cong \angle ADC$
3) seg AB $\cong$ seg CD
4) seg AD $\cong$ seg CD

3)



In the diagram $\angle DBF$, $\angle EBC$, and $\angle EBA$ are right angles.
Which best describes the pair of angles: $\angle 1$ and $\angle 4$?
A. vertical
B. adjacent
C. supplementary
D. complementary

4)



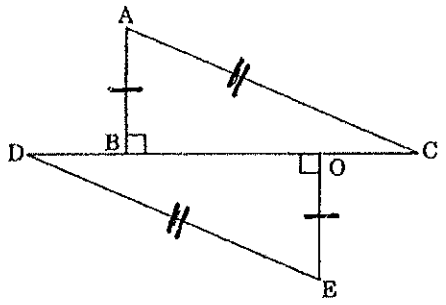
In the given figure, LM = ON, MO = NL.
Show that $\Delta LMN \cong \Delta ONM$

Proof

#	Statement	Reason
1		
2		
3		
4		
5		
6		
7		
8		
9		

8/10 Pg 3.

1)

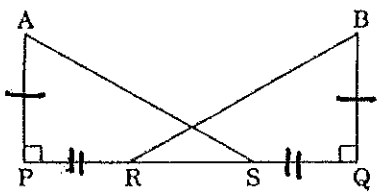


In the given figure, AB = OE, AC = DE. $AB \perp DC,\ EO \perp DC$
Show that $\angle A \cong \angle E$

Proof

#	Statement	Reason
1		
2		
3		
4		
5		
6		
7		
8		
9		

2.)



In the given figure, AP = BQ, PR = QS.
Show that ΔAPS = ΔBQR

Proof

#	Statement	Reason
1		
2		
3		
4		
5		
6		
7		
8		
9		

8/10 Pg 4

2) Fill in the blanks

a) The measures of vertically opposite angles is _____

b) _____ lines can be drawn passing through one point in a plane.

c) When a line intersects a plane but does not lie wholly in it, the intersection is _____

d) Points that lie on the same line are called _____ points.

e) Points that lie on the same plane are called _____ points.

f) The distance between points A and B, written as AB, is the _____ of the difference of the coordinates of A and B

g) An exterior angle of a triangle is _____ than each of the remote interior angles.

h) If two lines are perpendicular to the same line, then they are _____ to each other.

i) If two lines are parallel to the same line, then they are _____ to each other.

j) A transformation involving a translation followed by a reflection is called a _____ reflection.

k) _____, _____ and _____ are rigid motions.

l) A transformation in which a shape is turned around a fixed point is called _____

m) The fixed point around which a shape is turned in a transformation is called _____.

n) _____ is a function that moves or changes a figure in some way to produce a new figure called an image.

o) The shape that is transformed to form a new image is called the _____

p) When two or more transformations are combined to form a single transformation, the result is called _____ of transformations.

q) An **angle** is a set of points consisting of two different rays that have the same endpoint, called the _____. The _____ are called the sides of the angle.

8/10 - Pg (5)

	r) Two angles are congruent angles when they have the same _____. s) An angle bisector is a _____ that divides an angle into two angles that are congruent. Every angle has _____ angle bisector. t) Two positive angles whose measures have a sum of 180° are said to be _____. Each angle is the _____ of the other. u) _____ are two angles that share a common vertex and side, but have no common interior points.
3)	**Fill in the blanks (choose the correct answer)** a) _____ is obtained by rotating a ray about its end point. b) 1 second (1") = _____ degrees c) When the initial arm of an angle is moved in clockwise direction, it forms a _____angle d) Measure of a straight angle is _____ e) 3 or more lines passing through the same point are called _____ lines f) Two non- intersecting planes are said to be _____ g) Two points are always _____ h) Greater coordinate – smaller coordinate = _____ between two points. i) The difference between the measures of _____ angles is in multiples of 360^0 j) If the sum of the measures of two angles is 180 degrees, they are called _____angles. k) If the sum of the measures of two angles is 90 degrees, they are called _____angles. l) If the sum of the measures of two adjacent angles is 180 degrees, they are called _____angles.

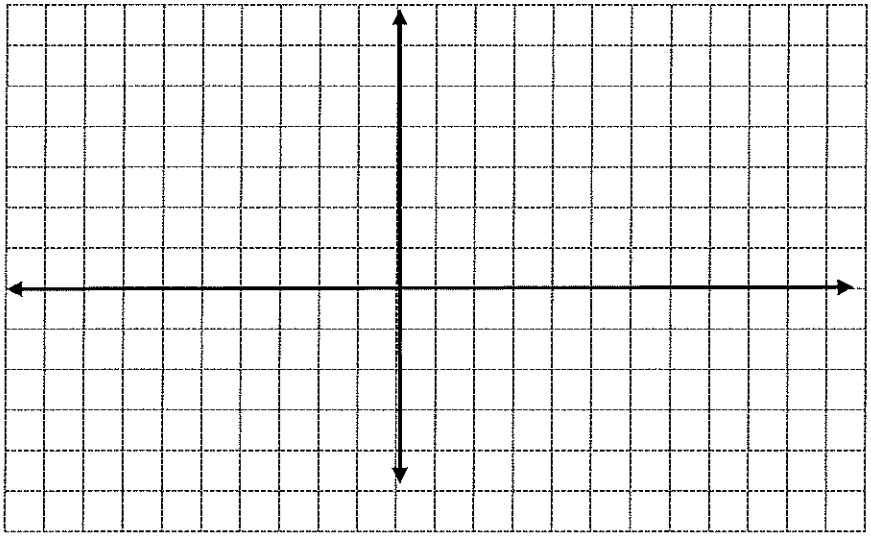
8/10-Pg (6)

4) Circle the characteristics of a polygon that remain the same, when it is translated 2 units up and 5 units to the right.

Area	Coordinates of the vertices	Distance from the X axis	Length of the sides	Measure of the angles

5) Find the measure of the smallest angle of a quadrilateral if its angles are in the ratio 2:4:1:2

6) (Use the graph if needed)



What will be the coordinate of Point $A\ (-5, 9)$ if it is

Reflected in X axis	*Reflected in Yaxis*	*Reflected in a line with equation* $x = 3$	*Reflected in a line with equation* $y = -3$
Rotated around the origin $90°$ *CCW*	*Rotated around the origin* $180°$ *CCW*	*Rotated around the origin* $270°$ *CCW*	*Translated by* $< 2, 5 >$
Rotated around the origin $90°$ *CW*	*Rotated around the origin* $180°$ *CW*	*Rotated around the origin* $270°$ *CW*	*Translated by* $< -2, -5 >$

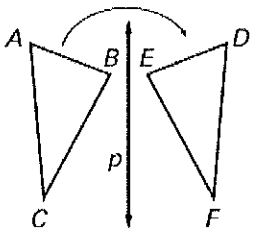
8/10 - Pg (7)

7) What will be the coordinate of Point P (3, −8) if it is

Reflected in X axis	*Reflected in Yaxis*	*Reflected in a line with equation* $x = -4$	*Reflected in a line with equation* $y = 4$
Rotated around the origin $90°$ *CCW*	*Rotated around the origin* $180°$ *CCW*	*Rotated around the origin* $270°$ *CCW*	*Translated by* $< -7, 4 >$
Rotated around the origin $90°$ *CW*	*Rotated around the origin* $180°$ *CW*	*Rotated around the origin* $270°$ *CW*	*Translated by* $< 7, -6 >$

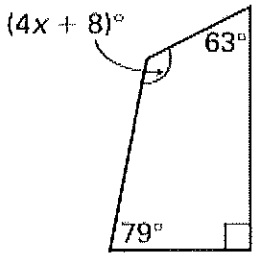
8) Name the different kinds of transformations

9) In the figure below, $\triangle DEF$ is the image of a reflection of $\triangle ABC$ in line p. Which two angles have the same measure?



(A) $\angle A$ and $\angle F$ (B) $\angle C$ and $\angle F$
(C) $\angle C$ and $\angle D$ (D) $\angle A$ and $\angle E$

. In the figure below, what is the value of x?



(A) 30 (B) 32 (C) 34 (D) 43

8/10-pg ⑧

10) Use the word bank below, to complete the following statements

Alternate exterior angle	equivalent	Perpendicular	Converse of corresponding angle	360
linear pair	parallel	intercepts	Converse of exterior angle	180
supplementary	Skew	transversal	Alternate interior angle	540

a) A line that intersects two or more lines at distinct points is called a _____.

b) The ratio of the lengths of _____made by 3 parallel lines on one transversal is equal to the ratio of the lengths of the intercepts made by those three 3 lines on any another transversal.

c) When two parallel lines are intersected by a transversal, the interior / consecutive angles thus formed are _____

d) If two adjacent angles are supplementary, they are called _____ angles

e) If there is a line and a point not on the line, then there is exactly one line through the point perpendicular to the given line. This is called the _____ postulate.

f) If there is a line and a point not on the line, then there is exactly one line through the point parallel to the given line. This is called the _____ postulate.

g) If two parallel lines are cut by a transversal, then the pairs of alternate interior angles are congruent. This is called the _____ theorem.

h) If two parallel lines are cut by a transversal, then the pairs of alternate exterior angles are congruent. This is called the _____ theorem.

i) When 2 lines are cut by a transversal, if the pairs of alternate exterior angles are ≅, then the lines are parallel. This is called the _____ theorem.

j) When 2 lines are cut by a transversal, if the pairs of corresponding angles are ≅, then the lines are parallel. This is called the _____ theorem.

k) Two lines are _____lines when they do not intersect and are not coplanar.

l) In a coordinate plane, two lines are coincident if and only if their equations are _____.

m) The sum of all exterior angles of a pentagon is _____ degrees.

n) The sum of all interior angles of a pentagon is _____ degrees.

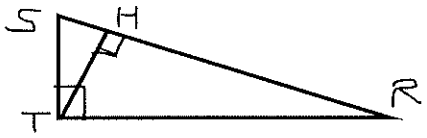
8/10-Pg 9

11) Use the word bank below, to complete the following statements

a) Congruent supplements Theorem	b) Ruler postulate
c) Perpendicular transversal Theorem	d) Linear Pair Perpendicular Theorem
e) Congruent Complements Theorem	f) Lines Perpendicular to a Transversal Theorem

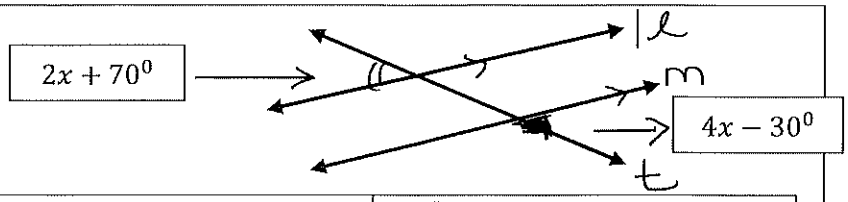
- If two lines intersect to form a linear pair of congruent angles, then the lines are perpendicular to each other. _____
- In a plane, if two lines are perpendicular to the same line, then they are parallel to each other. _____
- In a plane, if a transversal is perpendicular to one of two parallel lines, then it is also parallel to the other line. _____
- On a number line, there is a unique real number that corresponds to every point on the line. _____
- If two angles are complementary to the same angle (or to congruent angles), then they are congruent to each other. _____
- If two angles are supplementary to the same angle (or to congruent angles), then they are congruent to each other. _____

12) *Given*: *In* $\triangle STR$, $\angle T = 90°, \angle R = 35°, TH \perp RS$
Find: $m \angle HTS$

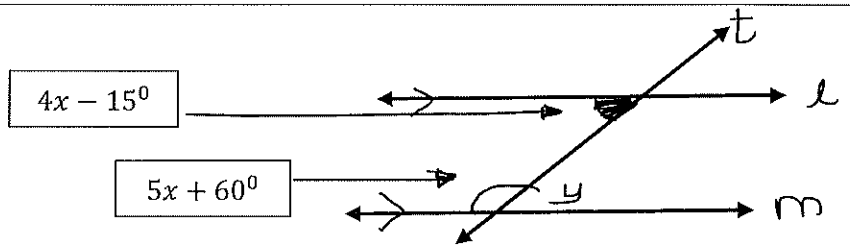


8|10-Pg (10)

13) Find: x



14) Find: x and y



15) Find the complement and the supplement of the angle measuring $30^0\ 40'\ 50''$

Complement	Supplement

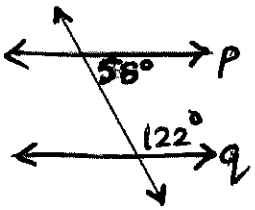
16) Find the complement and the supplement of the angle measuring $42^0\ 33'20''$

Complement	Supplement

8/10-Pg (11)

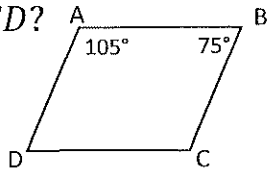
17) Is it possible to prove the lines are parallel or not parallel? If so, state the postulate or theorem you would use. If not, state cannot be determined.

Is $p \parallel q$



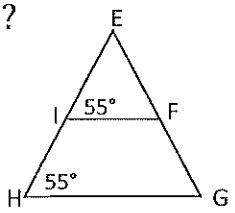
Yes / No / Not sure

Is $AB \parallel CD$?



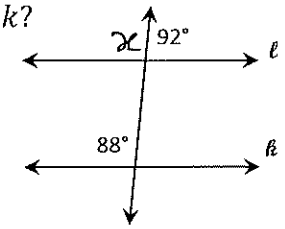
Yes / No / Not sure

Is $IF \parallel HG$?



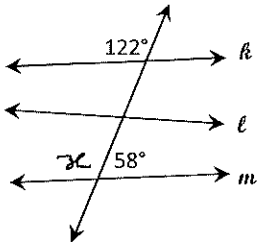
Yes / No / Not sure

Is $l \parallel k$?



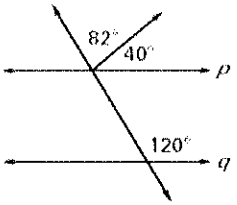
Yes / No / Not sure

Is $k \parallel m$?



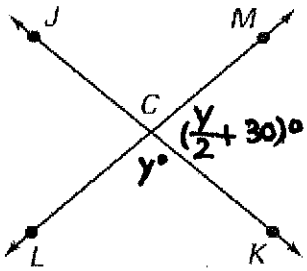
Yes / No / Not sure

Is $p \parallel q$?



Yes / No / Not sure

18) In the figure, what is $m\angle JCL$?



8/10 - Pg (12)

Find the coordinates of the image of the polygon after a dilation with scale factor k.

$A(-4,6)\quad B(-1,-2)\quad C(2,4)\quad D(0,-2);\quad k=-3$

A'	B'	C'	D'

$A(-4,6)\quad B(-6,-2)\quad C(-2,-4)\quad D(0,-8);\quad k=\frac{1}{2}$

A'	B'	C'	D'

19) Find the coordinates of the image of the polygon after

$A(-4,6)\quad B(-1,-2)\quad C(2,4)\quad D(0,-2);$
$90\ degree\ CCW\ rotation\ around\ the\ origin$

A'	B'	C'	D'

$A(-4,6)\quad B(-6,-2)\quad C(-2,-4)\quad D(0,-8);$
$180\ degree\ CCW\ rotation\ around\ the\ origin$

A'	B'	C'	D'

$A(-4,6)\quad B(-6,-2)\quad C(-2,-4)\quad D(0,-8);$
$270\ degree\ CCW\ rotation\ around\ the\ origin$

A'	B'	C'	D'

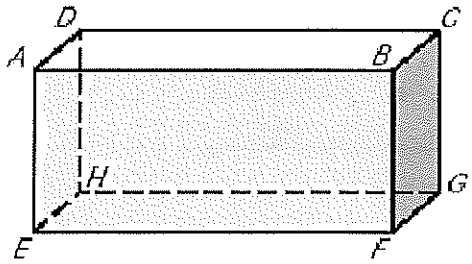
20) Two supplementary angles are in a ratio of $4\frac{1}{2}:3$. What is the measure of the larger angle?

8/10 -Pg (13)

21)	If the point (5, -1) is shifted 10 units to the left and 10 units up, give the coordinates of its new location
22)	What is the slope of a line that is perpendicular to the line with equation $7x - 3y = 12$?
23)	What is the length of the line segment from (2,7) to (5,11)?
24)	What is the **Complement of 38^0 25' 30"**
25)	What is the **Complement of 52^0 6' 25"**
26)	What is the **Supplement of 45^0 23' 40"**
27)	What is the **Supplement of 120^0 51"**

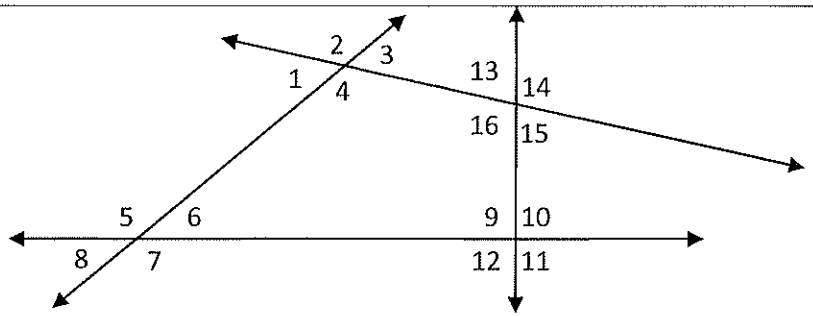
8/10-Pg (14)

28) **Think of each segment in the diagram as part of a line. Which line(s) or plane(s) appear to fit the description?**



1. Line(s) parallel to $\overleftrightarrow{AB}$
2. Line(s) perpendicular to $\overleftrightarrow{BF}$
3. Line(s) skew to $\overleftrightarrow{CD}$ and containing point E
4. Plane(s) perpendicular to plane ABE
5. Plane(s) parallel to plane ABC

29)



Refer to the <u>above</u> figure and identify the special angle pair name.

1) $\angle 3$ and $\angle 13$ _____

2) $\angle 8$ and $\angle 10$ _____

3) $\angle 11$ and $\angle 15$ _____

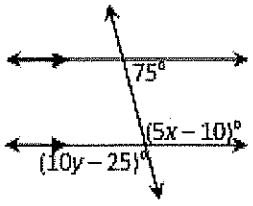
4) $\angle 8$ and $\angle 6$ _____

5) $\angle 1$ and $\angle 6$ _____

6) $\angle 6$ and $\angle 10$ _____

7) $\angle 14$ and $\angle 15$ _____

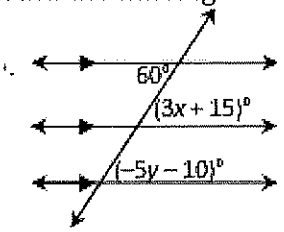
30) Find the missing variable.



X=	Y =

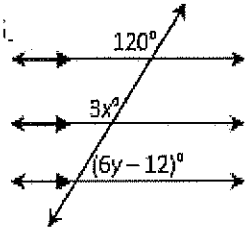
8/10-Pg (15)

31) Find the missing variable.



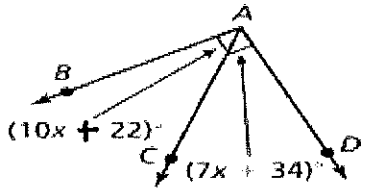
X= Y =

32) Find the missing variable.

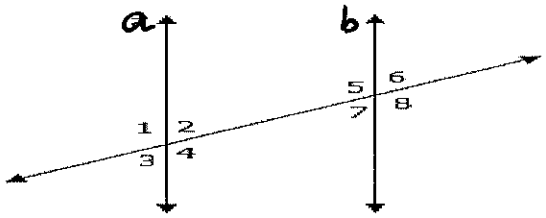


X= Y =

33) *If* $m\angle BAD = 90$ *degrees*, Find the value of x

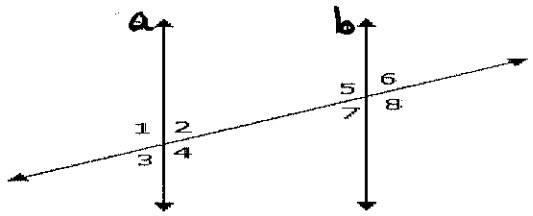


34) State the postulate or theorem that supports each conclusion



Given: a || b
Conclusion: $\angle 2 \cong \angle 7$

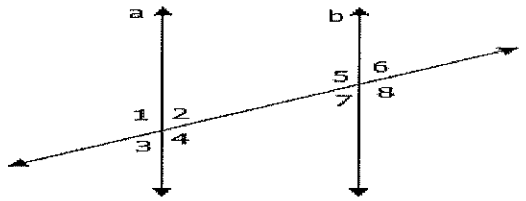
35) State the postulate or theorem that supports each conclusion



Given: $m\angle 4 + m\angle 7 = 180$
Conclusion: a || b

8/10 - Pg 16

36) State the postulate or theorem that supports each conclusion



Given: $\angle 4 \cong \angle 5$
Conclusion: a || b

37) True or false

Two planes intersect at a point.	True / False
The sum of all exterior angles a triangle is 180 degrees.	True / False
Two non co-planer non-parallel lines are called parallel lines.	True / False
Two non co-planer non-parallel lines are called skew lines.	True / False
The measure of a reflex angle is always greater than 180 degrees.	True / False
400 degrees is the co-terminal angle of 40 degrees.	True / False
500 degrees is the co-terminal angle of 50 degrees.	True / False
Three distinct points determine an unique plane.	True / False
A Ray has infinte length.	True / False
A segment has infinite length.	True / False
If Segment AB= 6 cm, it is made up of finite number of points.	True / False
The equation of Y-axis is $X = 0$	True / False
The line with equation $Y = X$ passes through the first and third quadrant on the graph.	True / False
The line with equation $Y = -X$ passes through the first and second quadrant on the graph.	True / False

38) Fill in the blanks

a) _____ lines can be drawn passing through one point in a plane.

b) When a line intersects a plane but does not lie wholly in it, the intersection is a/ an_____

c) Points that lie on the same line are called _____ points.

d) An exterior angle of a triangle is _____ than each of the remote interior angles.

8/10 - Pg (17)

39) Fill in the blanks

a) The difference between the measures of two consecutive co-terminal angles is _____

b) An angle bisector is a _____ that divides an angle into two angles that are congruent.

c) _____angles are two angles that share a common vertex and side but have no common interior points.

d) A polygon is _____ polygon when no line that contains a side of the polygon contains a point in the interior of the polygon.

e) _____ are points that lie on the same line.

f) The midpoint of a segment is the point that divides the segment into two _____ segments.

g) A line that interests two or more lines at distinct points is called _____

h) If a line does not entirely lie in a plane, then its intersection with the plane is a _____

i) If two angles are supplementary to the same angle, then the two angles are _____

j) The intersection of two non-parallel planes is a _____.

k) If two points lie in a plane, then the _____ containing those two points also lies in the plane.

40) Circle the correct answer: True or false

The sum of all interior angles of a pentagon = 540 degrees	True False
The sum of all interior angles of a quadrilateral = 540 degrees	True False
Every angle has only one midpoint.	True False
The line that intersects two or more lines at distinct points is called a transversal.	True False
A line has no dimension.	True False
If two lines are not parallel, then they are intersecting lines.	True False
If two segments have the same length, then they are congruent.	True False
Every segment is made up of finite number of points.	True False

41) Fill in the blanks

8/10 - Pg (18)

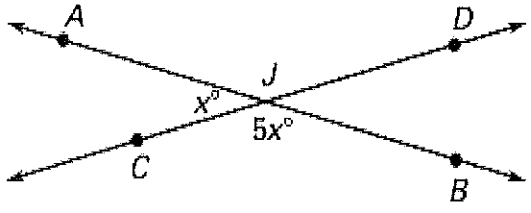
A transformation involving a reflection followed by a translation is called a _____ reflection.

- A transformation in which a shape is turned around a fixed point is called _____
- _____ is a function that moves or changes a figure in some way to produce a new figure called an image.
- $y - y_1 = m(x - x_1)$ is the _____ form of a linear function.

42) **Choose the correct name for the property stated from the options listed**

1)	If two lines intersect, their intersection is only one point.	• Three-point postulate • Line intersection postulate • Line- point postulate
2)	Through any three non-collinear points there exists only one plane.	• Three-point postulate • Line intersection postulate • Line- point postulate
3)	A line contains at least two points.	• Two-point postulate • Line intersection postulate • Line- point postulate
4)	If two lines are parallel, then the corresponding angles formed are congruent.	• Corresponding angles theorem • Converse of Corresponding angles theorem
5)	If a pair of interior angles are supplementary, then the lines containing them are parallel.	• Interior angles theorem • Converse of interior angles theorem
6)	If the base angles of a triangle are congruent then the triangle is an isosceles triangle.	• Isosceles triangle theorem • Converse of Isosceles triangle theorem
7)	If $\boldsymbol{seg\ AB \cong Seg\ PQ}$, $\boldsymbol{then\ seg\ PQ \cong Seg\ AB}$	• Transitive property • Symmetry property • Reflexive property
8)	If $\boldsymbol{\angle A \cong \angle B\ and\ \angle B \cong \angle C}$, $\boldsymbol{then\ \angle A \cong \angle C}$	• Transitive property • Symmetry property • Reflexive property

43) In the figure, what is $m\angle BJD$?



8/10-Pg 19

44) **Circle the correct choice from the options listed**

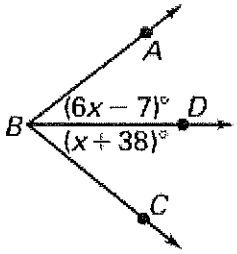
1.	The distance between two points is ____ value of the difference between their coordinates.	• the opposite • the absolute
2.	In geometry the words- point, line, and plane _____.	• are undefined • are not true • do not exist
3.	In a plane, if two lines are perpendicular to the same line, then they are parallel to each other	• Linear Pair Perpendicular Theorem • Lines Perpendicular to a Transversal Theorem • Perpendicular transversal Theorem
4.	A _____ bisects a segment.	• perpendicular • half Segment • segment bisector
5.	When 2 lines are intersected by a transversal, if the pairs of corresponding angles are ≅, then the lines are parallel. This is called the _____theorem.	• corresponding angles theorem • Converse of corresponding angles theorem
6.	If two parallel lines are intersected by a transversal, then the pairs of alternate interior angles are congruent. This is called the _____ theorem.	• Alternate interior angle theorem • Converse of alternate interior angle theorem
7.	_____ is a closed figure formed by three or more-line segments called sides.	• A hexagon • A triangle • A polygon
8.	Angles that share a common arm and a vertex but do not have shared interiors are called__ angles.	• supplementary • adjacent • congruent

45) Fill in the blanks

- When two or more transformations are combined to form a single transformation, the result is called _____ of transformations.
- Two angles are congruent angles when they have the same _____
- 3 or more lines passing through the same point are called _____ lines.
- Lines that slant down from left to right have _____ slope.

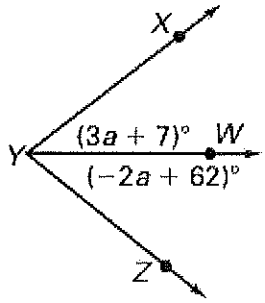
8/10-Pg 20

46) If $\overrightarrow{BD}$ bisects $\angle ABC$, what is the measure of $\angle ABC$?



(A) 85° (B) 87°
(C) 90° (D) 94°

If $\overrightarrow{YW}$ bisects $\angle XYZ$, what is the measure of $\angle XYZ$?



47) The midpoint of $\overline{XY}$ is $M(2, -7)$. One endpoint is $Y(-6, -11)$. What are the coordinates of X?

(A) $(-4, -18)$ (B) $(10, -3)$
(C) $(14, -24)$ (D) $(12, -77)$

What are the coordinates of the midpoint of a segment with endpoints $(-21, 38)$ and $(7, -8)$? *(Lesson 1.5)*

(A) $(-7, 15)$ (B) $(14, 30)$
(C) $(7, 15)$ (D) $(17, 1)$

48) . What is the reflection of point $M(3, 2)$ in the x-axis?

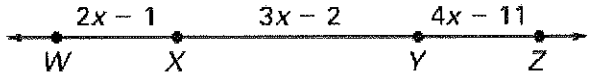
(A) $(3, 2)$ (B) $(-3, -2)$
(C) $(-3, 2)$ (D) $(3, -2)$

. Two angles $\angle XYZ$ and $\angle XYW$ form a linear pair. If $m\angle XYZ = 45°$, what is $m\angle XYW$?

(A) 45°
(B) 90°
(C) 135°
(D) 315°

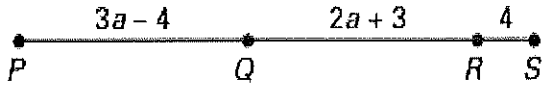
8/10 - Pg 21

49) In the diagram, $\overline{WX} \cong \overline{YZ}$. What is the length of $\overline{WZ}$?



(A) 2
(B) 5
(C) 15
(D) 31

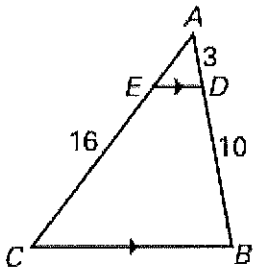
In the figure below, Q is the midpoint of $\overline{PR}$. What is PS?



(A) 4 (B) 17 (C) 34 (D) 38

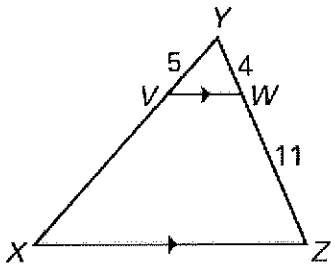
50) In the figure below, what is EA?

(A) 4.8
(B) 4.0
(C) 3.7
(D) 3.0



In the figure below, what is XV?

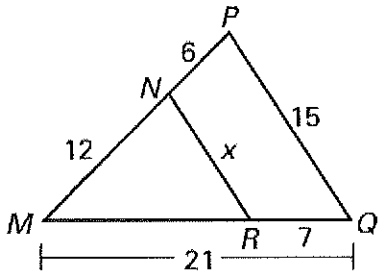
(A) 9
(B) 12
(C) $13\frac{3}{4}$
(D) $14\frac{1}{2}$



51) In the diagram, how many lines can be drawn through points A and B parallel to line k?

(A) 0 (B) 1
(C) 2 (D) 3

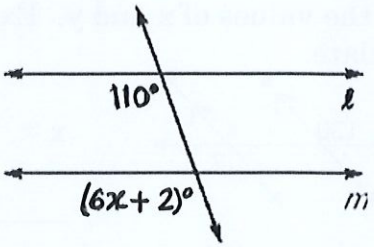
In the figure below, $\triangle MNR$ is similar to $\triangle MPQ$. What is the value of x?



(A) 7.5 (B) 10 (C) 21 (D) 30

8/10-Pg 22

10. Find the value of x that makes l // m.



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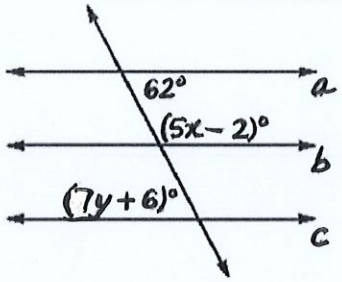
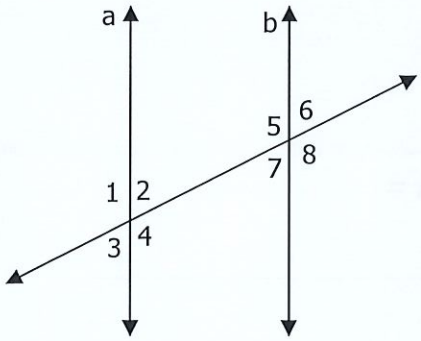
11. a. Find the value of x that makes a // b.

b. Find the value of y that makes a // c.



c. Is b // c? Why or why not?

State the postulate or theorem that supports each conclusion.



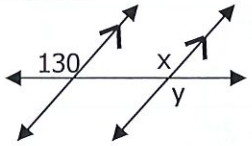
1. Given: a || b _____
   Conclusion: $\angle 2 \cong \angle 7$

2. Given: $m\angle 4 + m\angle 7 = 180$ _____
   Conclusion: a || b

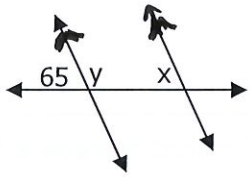
3. Given: $\angle 4 \cong \angle 5$ _____
   Conclusion: a || b

8/10 – Pg 23

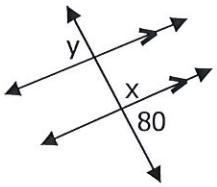
Find the values of x and y. Explain your reasoning by stating the proper theorem or postulate.

4. 

x = _____ y = _____

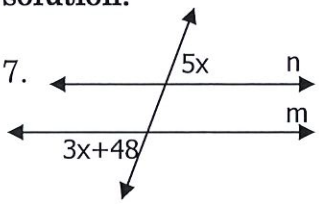
5. 

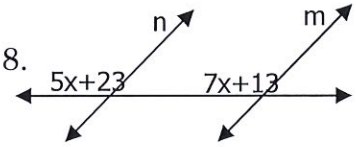
x = _____ y = _____

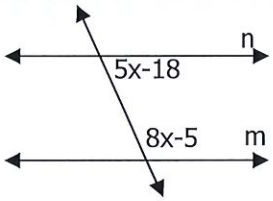
6. 

x = _____ y = _____

Find the value of x so that *n* // *m*. State the theorem or postulate that justifies your solution.

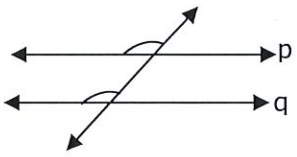
7. 

8. 

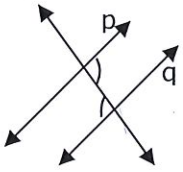
9. 

x = _____ **x =** _____ **x =** _____

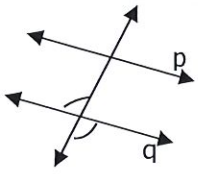
Can you prove that lines p and q are parallel? If so, state the theorem or postulate that you would use.

10. 

Yes / No

11. 

Yes / No

12. 

Yes / No

8/10 – Pg 24

1)	If ΔJKL ≅ ΔMNO, which statement is always true? 1) ∠KLJ ≅ ∠NMO 2) ∠KJL ≅ ∠MON 3) JL ≅ MO 4) JK ≅ ON	A line segment has endpoints $A(7,-1)$ *and* $B(-3,3)$. What are the coordinates of the midpoint of AB? a) $(1,2)$ b) $(2,1)$ c) $(-5,2)$ d) $(5,-2)$
2)	What is the negation of the statement "Squares are parallelograms"? 1) Parallelograms are squares. 2) Parallelograms are not squares. 3) It is not the case that squares are parallelograms. 4) It is not the case that parallelograms are squares.	What is the negation of the statement "The Sun is shining"? 1) It is cloudy. 2) It is daytime. 3) It is not raining. 4) The Sun is not shining.
3)	If the conditional statement "If you have a laptop, then you have a computer" is represented by $p \rightarrow q$ what is the symbolic representation of "If you have a computer, then you do not have a laptop"? a) $q \rightarrow \sim p$ b) $\sim q \rightarrow p$ c) $\sim q \rightarrow \sim p$ d) $p \rightarrow \sim q$	In circle O, a diameter has endpoints (–5, 4) and (3, –6). What is the length of the diameter? a) $2\sqrt{2}$ b) $\sqrt{2}$ c) $\sqrt{10}$ d) $2\sqrt{41}$
4)	What is the length of the line segment with endpoints (–6, 4) and (2, –5)? 1) $\sqrt{13}$ 2) $\sqrt{17}$ 3) $\sqrt{72}$ 4) $\sqrt{145}$	What is the converse of the statement "If Bob does his homework, then George gets candy"? 1) If George gets candy, then Bob does his homework. 2) Bob does his homework if and only if George gets candy. 3) If George does not get candy, then Bob does not do his homework. 4) If Bob does not do his homework, then George does not get candy.
5)	The midpoint of seg AB is M(4, 2). If the coordinates of A are (6, –4), what are the coordinates of B? 1) (1, –3) 2) (2, 8) 3) (5, –1) 4) (14, 0)	The point (3, –2) is rotated 90º about the origin counter-clockwise (CCW) and then dilated by a scale factor of 4. What are the coordinates of the resulting image? a) (–12, 8) b) (12,-8) c) (8, 12) d) (–8, –12)

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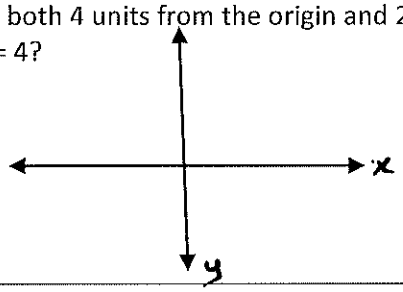
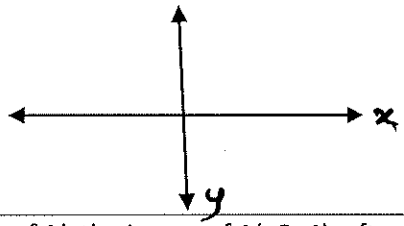
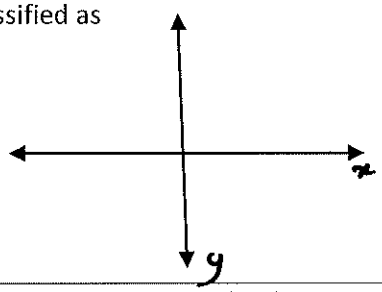
4)	How many points are both 4 units from the origin and 2 units from the line y = 4? a) 1 b) 2 c) 3 d) 4 	How many points in the coordinate plane are 3 units from the origin and equidistant from both the x-axis and the y-axis? 1) 1 2) 2 3) 8 4) 4 
5)	What is the slope of the line perpendicular to the line represented by the equation 2x + 4y = 12? 1) −2 2) 2 3) − (1/2) 4) (1/2)	What are the coordinates of A', the image of A(−3, 4), after a rotation of 180º about the origin? a) (4, −3) b) (−4, −3) c) (3, 4) d) (3, −4)
6)	The equation of line k is y = (1/3) x − 2. The equation of line m is −2x + 6y = 18. Lines k and m are a) parallel b) perpendicular c) the same line d) neither parallel nor perpendicular	Line m passes through the point (5, 3) and is parallel to line k whose equation is 5x + y = 6. An equation of line m is 1) y = 1 5 x + 2 2) y = −5x + 28 3) y = 1 5 x − 2 4) y = −5x − 28
7)	What is the image of the point (−5, 2) under the translation T<3, −4>? a) (−9, 5) b) (−8, 6) c) (−2, −2) d) (−15, −8)	A polygon is transformed according to the rule: (x, y) → (x + 2, y). Every point of the polygon moves two units in which direction? 1) up 2) down 3) left 4) right
8)	If the vertices of Δ ABC are A(−2, 4), B(−2, -4), and C(−5, 0), then ABC is classified as a) right b) scalene c) isosceles d) equilateral 	What is an equation of the line that passes through the point (−2, 5) and is perpendicular to the line whose equation is y = (1/ 2) x + 5? 1) y = 2x + 1 2) y = −2x + 1 3) y = 2x + 9 4) y = −2x − 9
9)	Point A lies in plane B. How many lines can be drawn perpendicular to plane B through point A? a) one b) two c) zero d) infinite	If line m is perpendicular to distinct planes P and Q, then planes P and Q ___ 1) are parallel 2) contain line m 3) are perpendicular 4) intersect, but are not perpendicular

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1 If Δ ABC ≅ Δ JKL ≅ Δ RST, then seg BC must be congruent to

a) Seg JL
b) Seg JK
c) Seg ST
d) Seg RS

If Δ MNP ≅ Δ VWX and seg PM is the shortest side of MNP, what is the shortest side of Δ VWX?

1) Seg XV
2) Seg WX
3) Seg VW
4) Seg NP

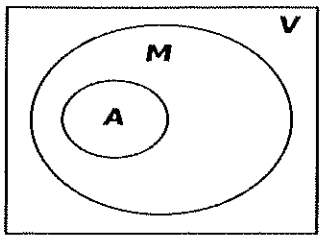
2) In triangles ABC and DEF, AB = 4, AC = 5, DE = 5, DF = 4, and ∠A ≅ ∠D. Which method could be used to prove Δ ABC ≅ Δ DEF?

1) AAS
2) SAS
3) SSS
4) ASA

If Δ ABC ≅ Δ ZXY, m ∠A = 50, and m ∠C = 30, what is m ∠X ?

1) 30
2) 50
3) 80
4) 100

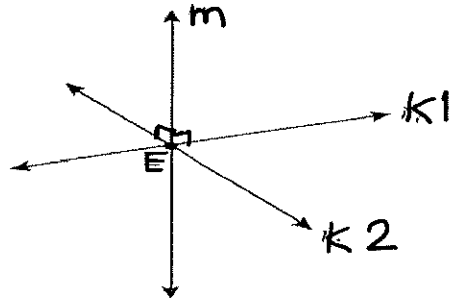
3)



In the Venn diagram, V represents the set of all vehicles, M represents the set of all motorized vehicles, and A represents the set of all automobiles. Based on the diagram, which is a valid conclusion?

a) All automobiles are motorized vehicles.
b) All motorized vehicles are automobiles.
c) Some automobiles are not motorized vehicles.
d) No automobiles are motorized vehicles.

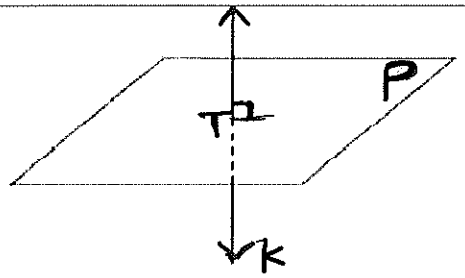
4)



Lines k1 and k_2 intersect at point E. Line m is perpendicular to lines k1 and k2 at point E.
Which statement is always true?

1) Lines k1 and k2 are perpendicular.
2) Line m is parallel to the plane determined by lines k1 and k2.
3) Line m is perpendicular to the plane determined by lines k1 and k2.
4) Line m is coplanar with lines k1 and k2.

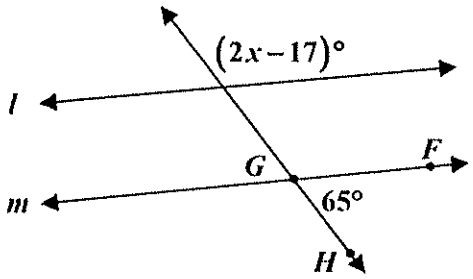
5)



In the diagram, line k is perpendicular to plane P at point T.
Which statement is true?

1) Any point in plane P also will be on the line k.
2) Only one line in plane P will intersect line k.
3) All planes that intersect plane P will pass through T.
4) Any plane containing line k is perpendicular to plane P.

6)



In the figure, m ∠FGH =° 65
What value of x would make line l parallel to line m?

A. 41
B. 49
C. 65
D. 66

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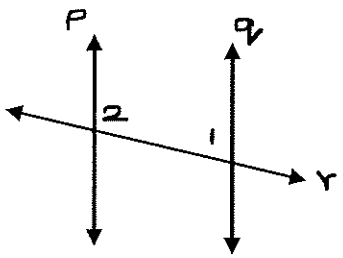
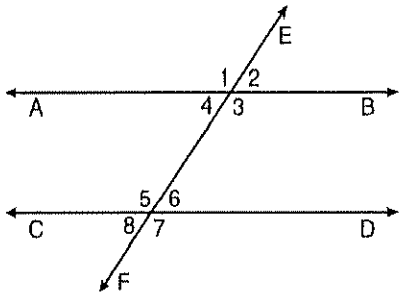
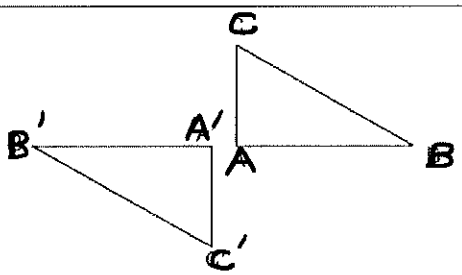
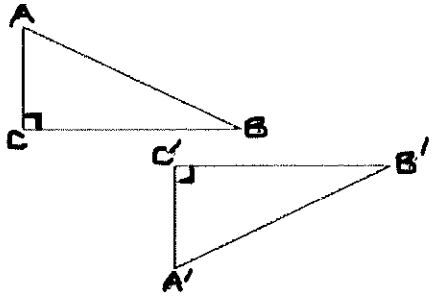
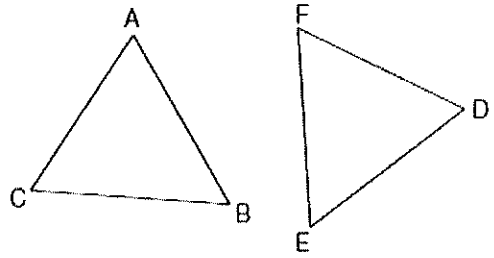
1)		Lines p and q are intersected by line r, as shown. If $m\angle 1 = 7x - 36$ and $m\angle 2 = 5x + 12$, for which value of x would line(p) be parallel to line(q)? 1) 17 2) 24 3) 83 4) 97
2)		Transversal EF intersects AB and CD, as shown in the diagram Which statement could always be used to prove Line AB parallel Line CD? 1) $\angle 2 \cong \angle 4$ 2) $\angle 7 \cong \angle 8$ 3) $\angle 3$ and $\angle 6$ are supplementary 4) $\angle 1$ and $\angle 5$ are supplementary
3)		In the diagram, under which transformation will Δ A'B'C ' be the image of Δ ABC? 1) rotation 2) dilation 3) translation 4) glide reflection
4)		In the diagram, under which transformation will Δ A'B'C ' be the image of Δ ABC? 1) rotation 2) dilation 3) translation 4) glide reflection
5)		In the diagram of ΔABC and Δ DEF below, $AB \cong DE$, $\angle A \cong \angle D$, and $\angle B \cong \angle E$. Which method can be used to prove $\Delta ABC \cong \Delta DEF$? 1) SSS 2) SAS 3) ASA 4) HL

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