

Geometry Semester Exam Review

Chapters 1-6

Show all of your work.

A note to remember, for this review AND the actual exam – It is always helpful to draw a picture.
I encourage you to do that for any problem a picture is not given. GOOD LUCK!!

Name: _____

Date: _____

Period: _____

Teacher: _____

Part I. Fill in the blank.

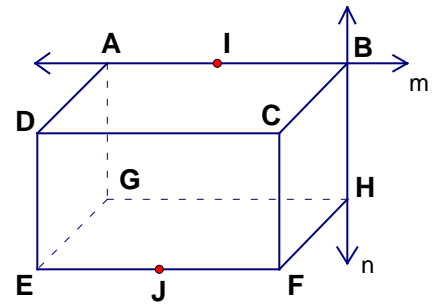
1. If $AM = MB$ and points A, M and B are collinear, then M is the _____.
2. In a triangle, the smallest angle is across from _____.
3. If two parallel lines are cut by a transversal, then all corresponding angles are _____.
4. If A is between B and C and are collinear, then the Segment Addition Postulate says _____.
5. A right triangle has _____ right angle and _____ acute angles.
6. _____, _____, _____, _____, _____ (5) are methods to prove triangles congruent.
7. The intersection of two planes is a _____.
8. In quadrant _____, the x and y coordinates are both negative.
9. Acute angles measure _____.
10. Equiangular triangles are also _____.
11. Parallel lines have the same _____.
12. The intersection of two lines is a _____.
13. Corresponding sides of congruent triangles are _____.
14. The slope of a horizontal line is _____.
15. Two angles are complementary if _____.
16. The angles in a triangle sum to _____.
17. Vertical angles are _____.
18. If a conditional statement is false, then so is its _____.
19. The hypotenuse of a right triangle is opposite the _____.
20. If two sides of a triangle have length 4 and 6 then the third side must be between ____ and ____.
21. The _____ of a right triangle is the longest side.
22. The slope of a vertical line is _____.
23. In a triangle, the largest angle is across from _____.
24. If two lines are parallel, then alternate interior angles are _____.

Part II. Free response by chapter.

Chapter 1

Use the diagram to determine true or false.

1. Points A, B and H are collinear. _____
2. Point A lies on line m . _____
3. Points B, C and H are coplanar. _____
4. Points E, J and F are collinear. _____
5. Point C lies on line n . _____
6. Plane ABC and plane BCF intersect at point B. _____

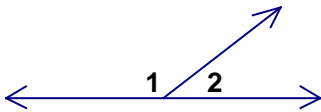


7. Find the length of the segment with endpoints H(2, 3) and J(6, 7). _____

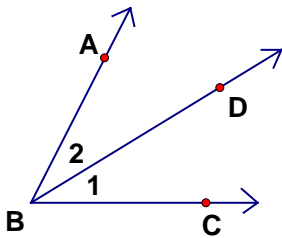
8. Find the midpoint of the segment MN with endpoints M(8, 9) and N(-2, 1). _____

9. True or false: If B is between M and T, $MB = BT - MT$. _____

10. If $m\angle 1 = 4(m\angle 2)^\circ$, find $m\angle 2$. _____

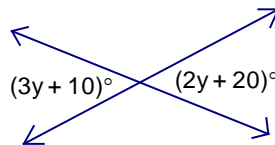


11. Find $m\angle ABC$ if \overline{BD} bisects $\angle ABC$, $m\angle 1 = (5x - 11)^\circ$ and $m\angle 2 = (3x + 5)^\circ$. _____



12. The measure of an angle is three times the measure of its supplement. Find the measure of the angle. _____

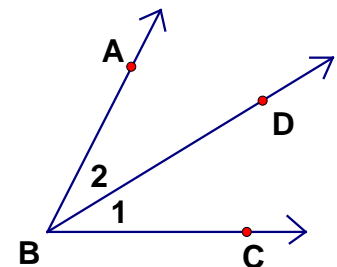
13. Find the value of y . _____



Use the diagram to the right for 14 – 15.

14. Find the value of x if $m\angle ABC = 6x^\circ$, $m\angle 1 = (2x + 5)^\circ$, and $m\angle 2 = (3x - 1)^\circ$. _____

15. Find $m\angle 2$ if $m\angle ABC = 75^\circ$ and $m\angle 1 = 16^\circ$. _____



Chapter 2

For questions 1 – 3, write the statement in if-then form.

1. Two lines intersect at exactly one point.

2. All tigers are cats.

3. All right angles measure 90 degrees.

Write the conditional statement in if-then form, and then the converse, inverse and contrapositive.

4. Vertical angles are congruent.

If-then: _____.

Converse: _____.

Inverse: _____.

Contrapositive: _____.

If possible, write the conclusion. State the law of logic that you used, or write "no conclusion."

5. a. If you have a driver's license, then you may drive a car.
 b. Cindy has a driver's license.
 c. _____

6. a. If $\overline{AB} \cong \overline{CD}$, then $\overline{CD} \cong \overline{AB}$.
 b. If $\overline{CD} \cong \overline{AB}$, then $CD = AB$.
 c. _____

7. a. All right angles are congruent.
 b. Vertical angles are congruent.
 c. _____

For questions 8 – 10, name the property of equality that justifies each statement.

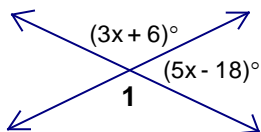
8. If $m\angle A + m\angle B = 180^\circ$ and $m\angle A = 110^\circ$, then $110 + m\angle B = 180^\circ$. _____

9. If $AB = CD$, then $CD = AB$. _____

10. If $m\angle K = \left(\frac{1}{2}m\angle L\right)^\circ$, then $2m\angle K = m\angle L$. _____

11. In the conditional "If p, then q," the q is called the _____.

12. Find the measure of $\angle 1$.



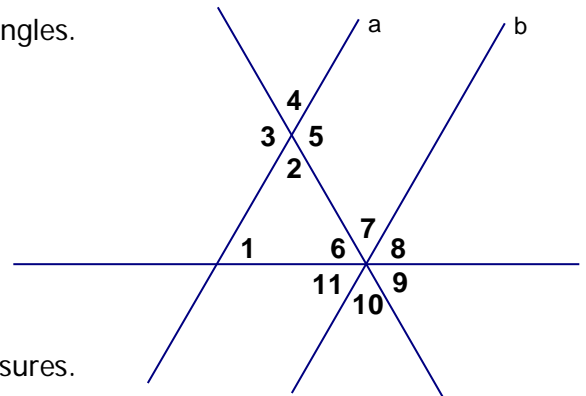
Chapter 3

Refer to the figure below. Identify the name for each pair of angles.

- $\angle 5$ and $\angle 7$ _____
- $\angle 1$ and $\angle 8$ _____
- $\angle 4$ and $\angle 2$ _____
- $\angle 1$ and $\angle 3$ _____
- $\angle 4$ and $\angle 5$ _____

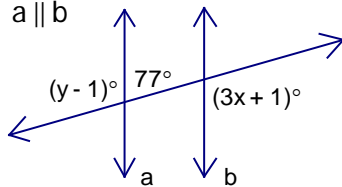
6. If $m\angle 1 = 80^\circ$, $m\angle 2 = 40^\circ$, and $a \parallel b$, find the angle measures.

- | | | |
|---------------------|----------------------|----------------------|
| $m\angle 3 =$ _____ | $m\angle 4 =$ _____ | $m\angle 5 =$ _____ |
| $m\angle 6 =$ _____ | $m\angle 7 =$ _____ | $m\angle 8 =$ _____ |
| $m\angle 9 =$ _____ | $m\angle 10 =$ _____ | $m\angle 11 =$ _____ |

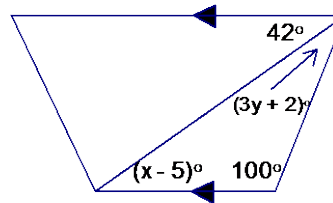


Find the value of x and y .

7. $a \parallel b$

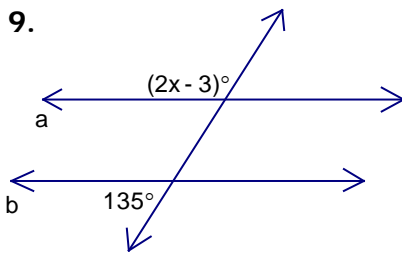


8.

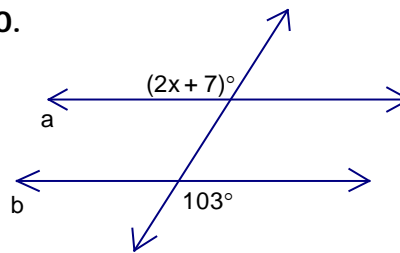


Find the value of x so that $a \parallel b$.

9.



10.



11. Tell whether a line whose slope is undefined is horizontal, vertical, or neither. _____

12. Find the slope of the line perpendicular to the line passing through $(4, -3)$ and $(1, -1)$. _____

13. Write the equation of the line with a slope of 4 passing through $(-1, 3)$. _____

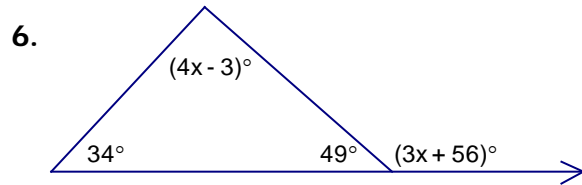
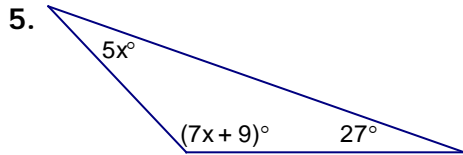
14. Write the equation of the line parallel to $y = \frac{1}{2}x + 9$ passing through $(-2, 3)$. _____

Chapter 4

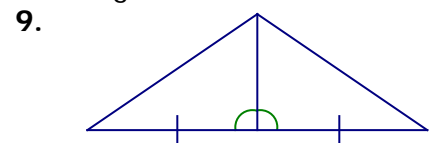
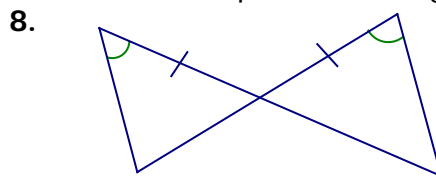
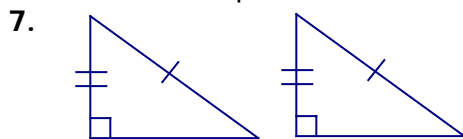
Determine whether each statement is true or false.

1. All isosceles triangles are acute. _____
2. An acute triangle can be equilateral. _____
3. A scalene triangle is never obtuse. _____
4. A right triangle can be isosceles. _____

Find the value of x .



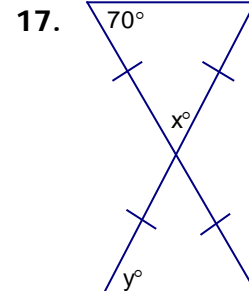
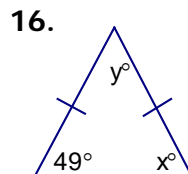
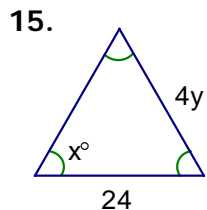
Determine which postulate or theorem can be used to prove the triangles are congruent.



Fill in the blank with **always**, **sometimes**, or **never**.

10. An equilateral triangle is _____ an isosceles triangle.
11. An isosceles triangle is _____ an equilateral triangle.
12. A triangle _____ has one obtuse angle and one right angle.
13. An equilateral triangle is _____ an obtuse triangle.
14. An equilateral triangle is _____ an acute triangle.

Find the value of x and y .



18. What is the vertex of $\angle ABC$? _____

Chapter 5

Fill in the blank.

1. Perpendicular bisectors intersect at a point called the _____.
2. Angle bisectors intersect at a point called the _____.
3. Medians intersect at a point called the _____.
4. Altitudes intersect at a point called the _____.

List the sides of $\triangle WXY$ in order from longest to shortest if the angles of $\triangle WXY$ have the indicated measures.

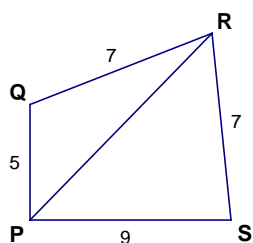
5. $m\angle W = (4x - 1)^\circ$ $m\angle X = (7x + 3)^\circ$ $m\angle Y = (3x - 4)^\circ$ _____

6. $m\angle W = (5x + 2)^\circ$ $m\angle X = (6x - 5)^\circ$ $m\angle Y = (48 - 2x)^\circ$ _____

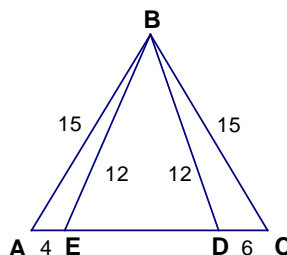
7. Two sides of a triangle are 16 and 22 centimeters in length. Determine whether 39 centimeters can be the length of the third side?

Write the inequality relating each pair of measures.

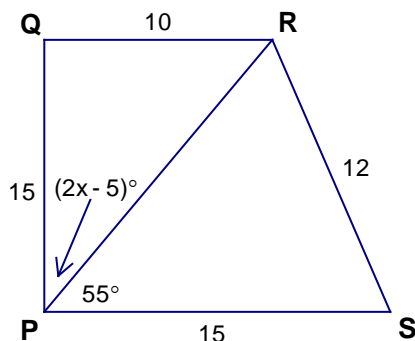
8. $m\angle PRQ$ _____ $m\angle PRS$



9. $m\angle DBC$ _____ $m\angle ABE$



10. Write an inequality to describe the possible values of x .



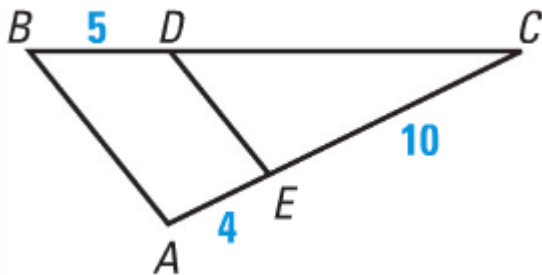
Chapter 6

1. List the three ways to prove triangles similar. _____

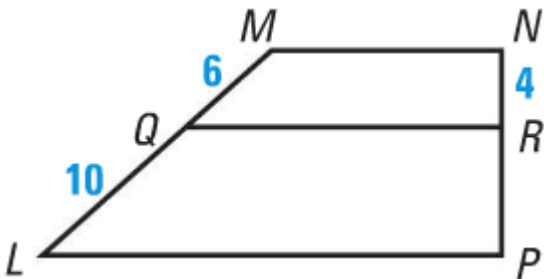
2. The ratios of 3 angles of a triangle are 2:5:11. Find the measure of each angle.

3. Find the geometric mean of 8 and 12.

4. Given: $\frac{BD}{CD} = \frac{EA}{CE}$. Find the length of BC.



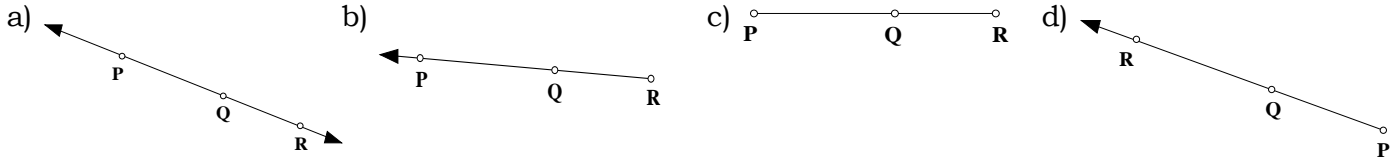
5. Given: $\frac{RN}{RP} = \frac{QM}{QL}$. Find RP.



6. Two similar posters have a scale factor of 4:5. The large poster's perimeter is 85 inches. Find the smaller poster's perimeter.

Midterm MC review, Part 1

1) Ray PR is shown in which sketch?



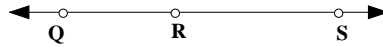
2) If $RS = 32.2$ and $QS = 62.8$, find QR .

a) 95

b) 32.2

c) 30.6

d) 20.6



3) Use the Segment Addition Postulate to solve for p .

$$FE = 4p + 20$$

$$EG = 5p + 16$$

$$FG = 45$$



a) $p = 1$

b) $p = 4$

c) $p = 5$

d) $p = 6$

4) Find the distance between $A(-6, 0)$ and $B(-4, 4)$.

a) 116

b) $\sqrt{20}$

c) $\sqrt{116}$

d) 20

5) Find the midpoint of $A(-6, 0)$ and $B(-4, 4)$.

a) $(-1, 2)$

b) $(-5, 2)$

c) $(-8, -4)$

d) $(-2, 8)$

6) M is the midpoint of segment AB . Given the coordinates of $A(2, -4)$ and $M(4, 6)$, find the coordinates of B .

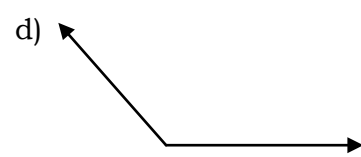
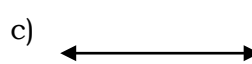
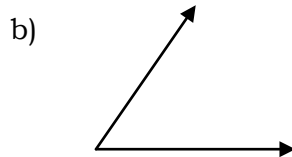
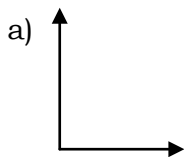
a) $(3, 1)$

b) $(6, 16)$

c) $(6, 8)$

d) $(6, 2)$

7) Which of the following angles measures 125° ?



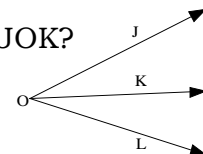
8) If $m\angle JOL = 50^\circ$ and $m\angle KOL = 27^\circ$, then what is the measure of $\angle JOK$?

a) 25°

b) 23°

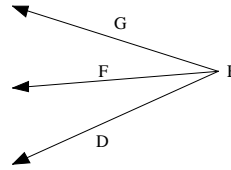
c) 28°

d) 20°



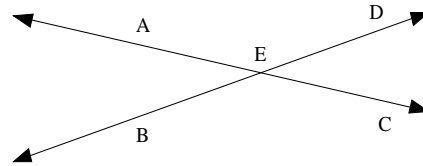
9) Given that $m\angle GED=60^\circ$, $m\angle GEF=2x+7$ and $m\angle DEF=7x-1$, find $m\angle GEF$ and $m\angle DEF$.

- a) $m\angle GEF = 41^\circ$ and $m\angle DEF = 19^\circ$
- b) $m\angle GEF = 47^\circ$ and $m\angle DEF = 13^\circ$
- c) $m\angle GEF = 13^\circ$ and $m\angle DEF = 47^\circ$
- d) $m\angle GEF = 19^\circ$ and $m\angle DEF = 41^\circ$



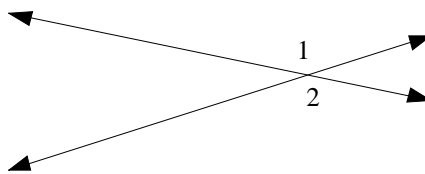
10) In the figure below, $m\angle AED = 128^\circ$. Which of the following statements is **false**?

- a) $m\angle BEC = 128^\circ$
- b) $\angle AEB$ and $\angle DEC$ are congruent
- c) $\angle BEC$ and $\angle CED$ are vertical angles
- d) $m\angle AEB = 52^\circ$



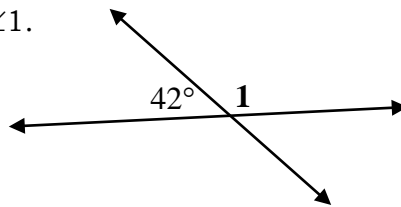
11) $\angle 1$ and $\angle 2$ are _____.

- a) a linear pair
- b) complementary angles
- c) supplementary angles
- d) vertical angles



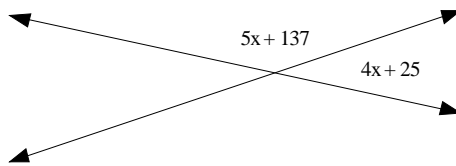
12) Find the measure of $\angle 1$.

- a) 42°
- b) 48°
- c) 58°
- d) 138°



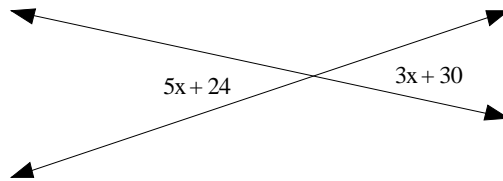
13) Solve for x .

- a) 0
- b) 1
- c) 2
- d) 5



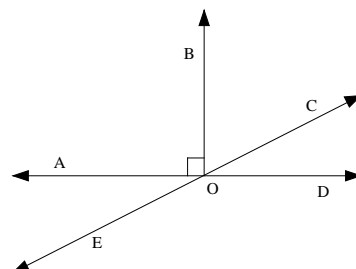
14) Solve for x .

- a) 1
- b) 2
- c) 3
- d) 6

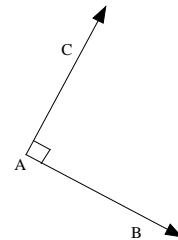


15) Name an angle that is adjacent to $\angle BOC$

- a) $\angle DOE$
- b) $\angle AOE$
- c) $\angle DOB$
- d) $\angle BOA$

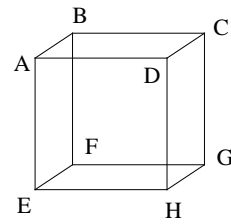


- 16) Using the diagram above, name an angle that is complementary to $\angle COD$.
- a) $\angle AOE$ b) $\angle BOC$ c) $\angle DOE$ d) $\angle AOC$
- 17) Rewrite the statement in if-then form: **Vertical angles are congruent.**
- a) If angles are congruent then they are vertical angles.
 b) If vertical angles are congruent then they can be measured.
 c) Angles are vertical angles if and only if they are congruent.
 d) If angles are vertical angles then they are congruent.
- 18) What is the converse of the statement, "If it rains then I carry my umbrella."?
- a) "If it does not rain, then I do not carry my umbrella."
 b) "If I do not carry my umbrella, then it does not rain."
 c) "If I do not carry my umbrella, then I will get wet."
 d) "If I carry my umbrella, then it rains."
- 19) "If I get a chance then I will succeed." In this conditional statement, the underlined portion is
- a) the hypothesis b) the argument c) the conclusion d) the converse
- 20) What is the inverse of the statement, "If two lines are parallel, then they do not intersect."?
- a) "If two lines are not parallel then they intersect."
 b) "If two lines intersect then they are not parallel."
 c) "If two lines do not intersect then they may be skew."
 d) "If two lines do not intersect then they are not parallel."
- 21) Which of the following statements is **false**?
- a) Three non-collinear points determine a plane.
 b) Any three points are collinear.
 c) A line contains at least two points.
 d) Through any two distinct points there exists exactly one line.
- 22) State a counterexample to the following statement: "If $x^2 = 25$, then $x = 5$."
- a) $x = 5$
 b) $x = -5$
 c) $x^2 = 25$
 d) $x^2 = 100$
- 23) The figure at right represents which of the following statements?
- a) two perpendicular **rays**
 b) two perpendicular **lines**
 c) a straight angle
 d) $AB = AC$



- 24) Identify this property of congruence: $\overline{CD} \cong \overline{CD}$
- a) Transitive b) Reflexive c) Symmetric d) Substitution

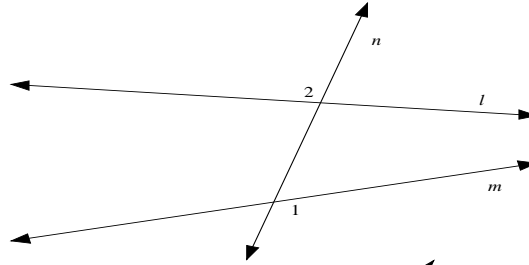
25) In the cube shown at right, \overleftrightarrow{AD} and \overleftrightarrow{HG} are called _____



- a) parallel lines
- b) perpendicular lines
- c) intersecting lines
- d) skew lines

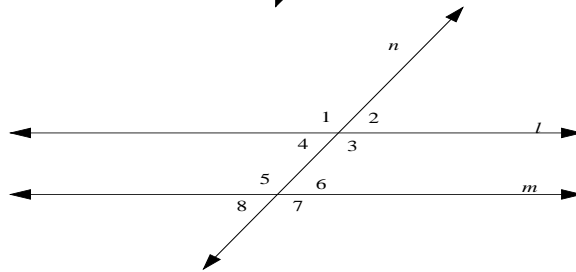
26) In the figure shown, $\angle 1$ and $\angle 2$ are _____

- a) same-side interior angles
- b) corresponding angles
- c) alternate interior angles
- d) alternate exterior angles



27) In the figure, $\angle 6$ and $\angle 3$ are _____

- A) corresponding angles
- B) alternate interior angles
- C) alternate exterior angles
- D) consecutive interior angles

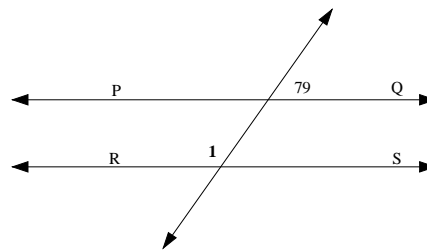


28) In the figure above, $\angle 6$ and $\angle 2$ are _____

- a) alternate interior angles
- b) alternate exterior angles
- c) corresponding angles
- d) same-side interior angles

29) Find $m\angle 1$, given that $PQ \parallel RS$

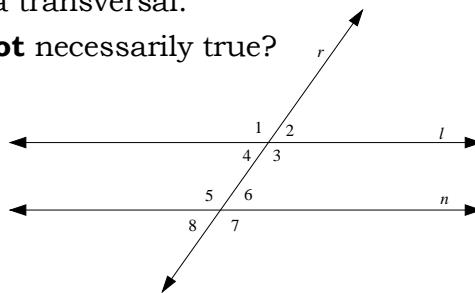
- a) 11°
- b) 79°
- c) 91°
- d) 101°



30) In the figure, $l \parallel n$ and r is a transversal.

Which of the following is **not** necessarily true?

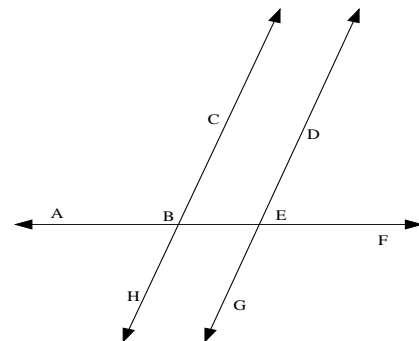
- a) $\angle 2 \cong \angle 6$
- b) $\angle 8 \cong \angle 2$
- c) $\angle 7 \cong \angle 4$
- d) $\angle 5 \cong \angle 3$



31) In the figure shown, $\overleftrightarrow{HC} \parallel \overleftrightarrow{GD}$, and $m\angle ABC = 108^\circ$.

Which of the following statements is **false**?

- a) $m\angle DEF = 72^\circ$
- b) $\angle ABH$ and $\angle AEG$ are alternate exterior angles
- c) $\angle HBF$ and $\angle AED$ are alternate interior angles
- d) $m\angle GEF = 108^\circ$



32) Find the slope of the line passing through the points (1, -6) and (-6, -5).

- a) 7 b) $\frac{-1}{7}$ c) $\frac{11}{5}$ d) -7

33) A line parallel to $y = \frac{2}{3}x - 7$ is:

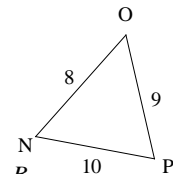
- a) $y = -\frac{2}{3}x - 7$ b) $y = -\frac{3}{2}x + 7$ c) $y = \frac{3}{2}x + 2$ d) $y = \frac{2}{3}x + 1$

34) Which describes the relationship between the lines with equations $-7x + 6y = 4$ and $6x + 7y = 0$?

- a) parallel b) same line c) perpendicular d) neither parallel nor perpendicular

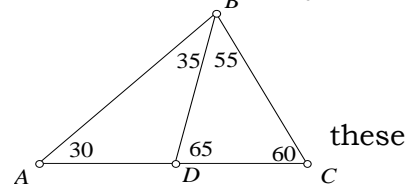
35) Classify $\triangle NOP$.

- a) Equilateral b) Isosceles c) Scalene d) none of these



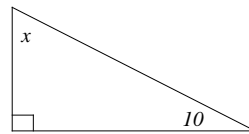
36) Name an obtuse triangle in the diagram to the right.

- a) $\triangle ADB$ b) $\triangle BDC$ c) $\triangle ABC$ d) none of these



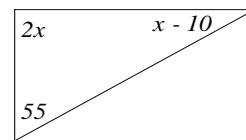
37) Find the value of x .

- a) 80° b) 100° c) 160° d) 170°



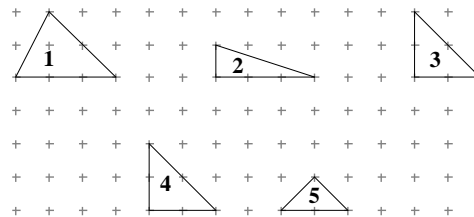
38) Solve for x .

- a) 45 b) 55 c) 90 d) 145



39) Which figures appear to be congruent?

- a) 3 and 4
b) 1, 2, and 4
c) 2 and 5
d) 1 and 4

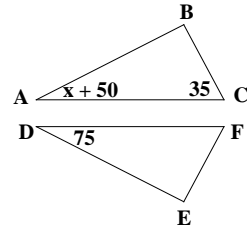


40) If $\triangle ABC \cong \triangle XYZ$, then $\overline{AC} \cong$ _____.

- a) XY b) YZ c) XZ d) AX

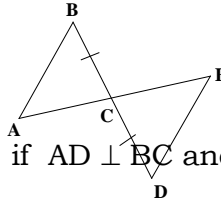
- 41) If $\triangle JKL \cong \triangle STU$, $JK = 10$ feet, $m\angle K = 59^\circ$, and $m\angle U = 21^\circ$, which of the following is **false**?
- a) $JL = SU$ b) $KL = TU$ c) $m\angle S = 100^\circ$ d) $\angle K \cong \angle S$

- 42) In the diagram, $\angle B \cong \angle E$ and $\angle C \cong \angle F$. Find the value of x .
- a) 25 b) 35 c) 50 d) 75



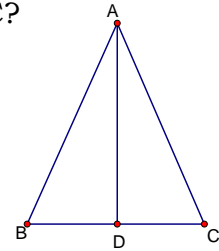
- 43) What must be true for $\triangle ABC \cong \triangle EDC$ by SAS?

- a) $\angle B \cong \angle D$ b) $\overline{AB} \cong \overline{DE}$
 c) $\overline{AC} \cong \overline{CE}$ d) $\angle A \cong \angle E$



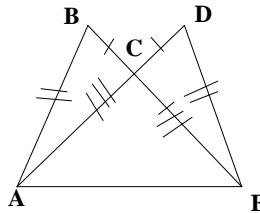
- 44) Which of the following statements must be true, if $AD \perp BC$ and $AB = AC$?

- a) $\triangle ABD \cong \triangle ACD$ by SSS
 b) $\triangle ABD \cong \triangle ACD$ by SAS
 c) $\triangle ABD \cong \triangle ACD$ by HL
 d) There are no congruent triangles



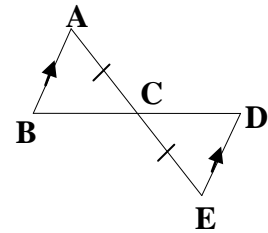
- 45) Refer to the figure at right. $\triangle ABC \cong$ _____

- a) $\triangle EDC$ b) $\triangle EDA$
 c) $\triangle ACE$ d) $\triangle CDE$



- 46) Using just the information shown in the diagram, which postulate or theorem can be used to prove that $\triangle ABC \cong \triangle EDC$?

- a) SSA b) SSS
 c) AAS d) SAS



- 48) What is the measure of each base angle of an isosceles triangle if its vertex angle measures 32° and its 2 congruent sides measure 17 inches?

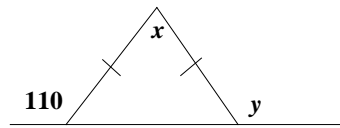
- a) 32° b) 58° c) 74° d) 148°

- 49) In $\triangle ABC$, if $\overline{AB} \cong \overline{BC}$ and $m\angle A = 39^\circ$, then $m\angle C =$ _____.

- a) 39° b) 51° c) 102° d) 141°

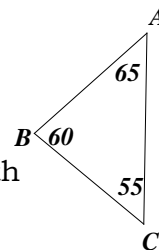
- 50) Find the values of x and y .

- a) $x = 70^\circ$ and $y = 50^\circ$ b) $x = 40^\circ$ and $y = 110^\circ$
 c) $x = 40^\circ$ and $y = 70^\circ$ d) $x = 70^\circ$ and $y = 110^\circ$



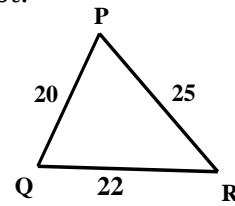
- 51) Identify the longest side of the triangle.

- a) \overline{AB} b) \overline{AC}
 c) \overline{BC} d) All the sides are the same length



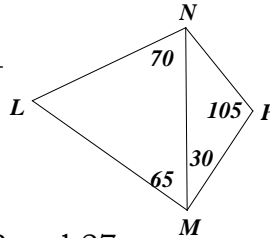
52) Arrange the angles of the triangle in order, from largest to smallest.

- a) $\angle P, \angle Q, \angle R$ b) $\angle P, \angle R, \angle Q$
 c) $\angle Q, \angle R, \angle P$ d) $\angle Q, \angle P, \angle R$



53) The longest side in the figure is _____

- a) \overline{NM}
 b) \overline{ML}
 c) \overline{LN}
 d) \overline{MP}



54) Two sides of a triangle have lengths 12 and 27.

The length of the third side must be greater than _____ and less than _____.

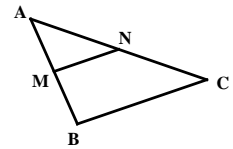
- a) 14, 40 b) 15, 39 c) 11, 28 d) 12, 27

55) Which side lengths allow you to construct a triangle?

- a) 7, 2, and 2 b) 2, 3, and 8 c) 1, 4, and 9 d) 6, 8, and 10

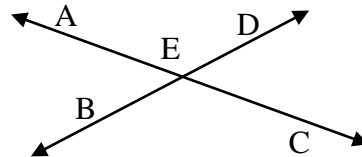
56) \overline{MN} is a midsegment of $\triangle ABC$. If $BC = 28$, find the length of \overline{MN} .

- a) 7 b) 14 c) 28 d) 56



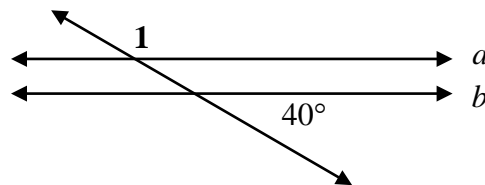
57) In the figure shown, $m\angle AED = 110^\circ$. Which statement is **false**?

- a) $m\angle AEB = 80^\circ$
 b) $\angle AEB$ and $\angle DEC$ are vertical angles
 c) $\angle BEC$ and $\angle CED$ are adjacent angles
 d) $m\angle BEC = 110^\circ$



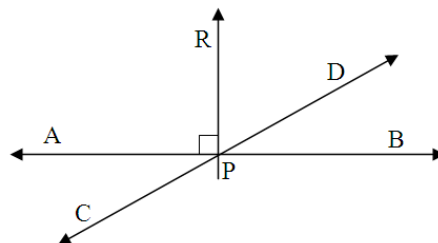
58) If line a is parallel to line b , what is $m\angle 1$?

- a) 40° b) 50°
 c) 90° d) 140°



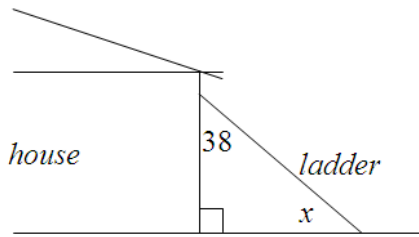
59) Lines \overleftrightarrow{AB} and \overleftrightarrow{CD} intersect at P. \overleftrightarrow{PR} is perpendicular to \overleftrightarrow{AB} and $m\angle APD = 170^\circ$. What is the measure of $\angle DPB$?

- a) 10°
 b) 20°
 c) 30°
 d) 40°



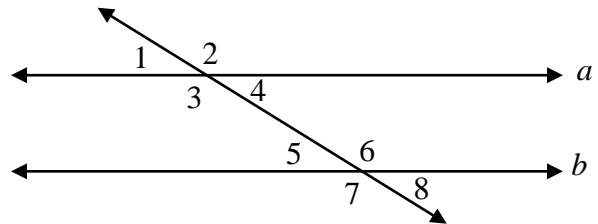
60) A ladder is leaning against a house at an angle of 38° , as shown in the diagram. What is the measure of the angle x , that the ladder makes with the ground?

- a) 38°
- b) 42°
- c) 52°
- d) 142°



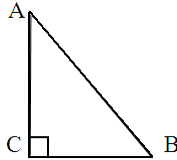
61) Line a is parallel to line b if:

- a) $m\angle 4 = m\angle 2$
- b) $m\angle 3 = m\angle 5$
- c) $m\angle 4 = m\angle 5$
- d) $m\angle 3 = m\angle 2$



62) $\triangle ABC$ is a right triangle with right angle at C . Which are the possible measures of $\angle A$ and $\angle B$?

- a) 48° and 50°
- b) 38° and 32°
- c) 52° and 38°
- d) 52° and 128°



63) Which conclusion follows logically from the true statements?

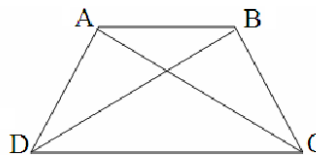
“If negotiations fail, then the baseball strike will not end.”

“If the baseball strike does not end, then the World Series will not be played.”

- a) If the baseball strike ends, the World Series will be played.
- b) If negotiations do not fail, the baseball strike will end.
- c) If negotiations fail, the World Series will not be played.
- d) If negotiations fail, the World Series will be played.

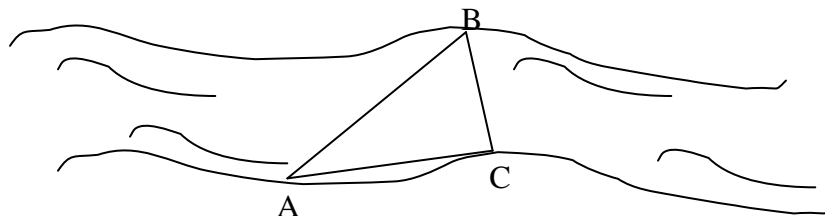
64) Given that $\overline{AD} \cong \overline{BC}$ and $\overline{AC} \cong \overline{BD}$, which could be used to prove that $\triangle DCA \cong \triangle CDB$?

- a) SSS
- b) SAS
- c) ASA
- d) AAS



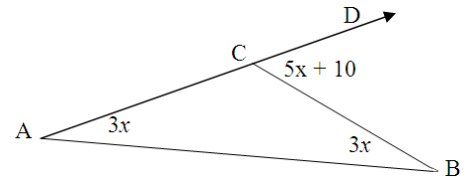
65) On the shores of a river, surveyors marked locations A , B , and C . $m\angle ACB = 70^\circ$ and $m\angle ABC = 65^\circ$. Which lists the distances between these locations in order, least to greatest?

- a) AB , BC , AC
- b) BC , AB , AC
- c) BC , AC , AB
- d) AC , AB , BC



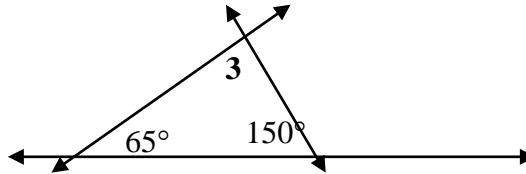
66) The figure has angle measures as shown. What is $m\angle BCD$?

- a) 120°
- b) 80°
- c) 60°
- d) 30°



67) What is $m\angle 3$?

- a) 65°
- b) 75°
- c) 85°
- d) 90°



68) Which of the following could be the lengths of the sides of $\triangle ABC$?

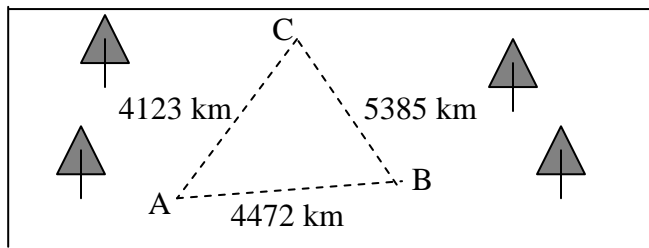
- a) $AB = 12, BC = 15, AC = 2$
- b) $AB = 9, BC = 15, CA = 4$
- c) $AB = 150, BC = 100, CA = 50$
- d) $AB = 10, BC = 8, AC = 12$

69) To find the contrapositive of a conditional statement you should:

- a) Find the inverse of the converse of the original statement.
- b) Find the converse of the inverse of the original statement.
- c) Negate the hypothesis and conclusion of the converse of the original statement.
- d) All of the above.

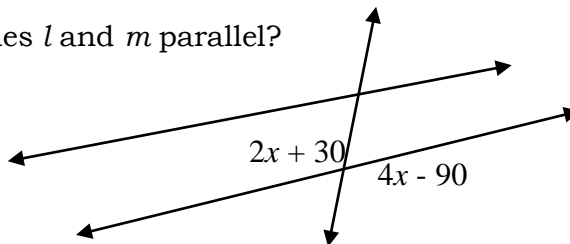
70) Three lookout towers are located at points A, B, and C on a section of the national forest shown in the diagram. Which of the following is true concerning $\triangle ABC$ formed by the towers?

- a) $m\angle A$ is greatest
- b) $m\angle C$ is greatest
- c) $m\angle A$ is least
- d) $m\angle C$ is least



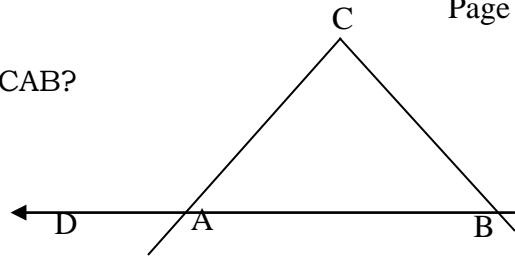
71) What value of x will make lines l and m parallel?

- a) 25
- b) 30
- c) 40
- d) 60



72) In the figure, $m\angle CAD$ is twice $m\angle CAB$. What is $m\angle CAB$?

- a) 120°
- b) 60°
- c) 45°
- d) 30°



73) Triangle XYZ is a right triangle with the right angle at Z.
Which are possible measures for angle X and angle Y?

- a) 40° and 42°
- b) 44° and 46°
- c) 48° and 50°
- d) 52° and 54°

Questions 76-90: True/False. For the following questions, bubble “a” for true and “b” for false.

- 74) It is possible to have a triangle with side lengths 7, 7, and 9. a) True b) False
- 75) Corresponding parts of congruent triangles are equal in measure. a) True b) False
- 76) Coplanar points are collinear. a) True b) False
- 77) Collinear points are coplanar. a) True b) False
- 78) SSA is a method to prove triangle congruency. a) True b) False
- 79) When two planes intersect, they form a line. a) True b) False
- 80) Equilateral triangles are equiangular. a) True b) False
- 81) Skew lines are coplanar. a) True b) False
- 82) If two lines are parallel, they have the same slope. a) True b) False
- 83) A right triangle can have up to two right angles. a) True b) False
- 84) In a right triangle, the hypotenuse is adjacent to the right angle. a) True b) False
- 85) The slope of a horizontal line is zero. a) True b) False
- 86) The AAA method is used to prove that triangles are congruent. a) True b) False
- 87) A scalene triangle never has congruent sides. a) True b) False
- 88) The Symmetric Property states an object is equal to itself (ex. $b = b$). a) True b) False

89) Simplify the following ratio as much as possible: $\frac{8 \text{ in}}{2 \text{ ft}}$

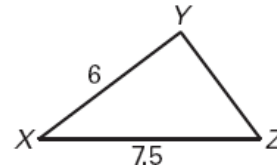
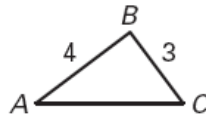
- a) $\frac{4}{1}$ b) $\frac{4 \text{ in}}{1 \text{ ft}}$ c) $\frac{8}{24}$ d) $\frac{1}{3}$

90) Solve the proportion: $\frac{x+2}{10} = \frac{1}{2}$

- a) $3/10$ b) 3 c) 4 d) 5

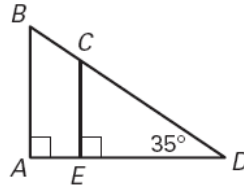
91) In the diagram $\triangle ABC \sim \triangle XYZ$. Find YZ .

- a) $9/2$ b) 2 c) 5 d) 8



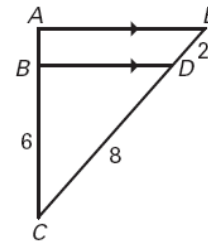
92) Are the two triangles in this diagram similar? If so, give the similarity statement.

- a) Yes, $\triangle ABC \sim \triangle CDE$
 b) Yes, $\triangle ABD \sim \triangle EDC$
 c) Yes, $\triangle ABD \sim \triangle ECD$
 d) No, the triangles are not similar.



93) In the diagram shown on the right, what is the length of \overline{AB} ?

- a) 4 b) $3/2$ c) $8/3$ d) 16



94) If two sides of a triangle have lengths 7 and 11, which is a possible length for the third side of the triangle?

- a) 18
 b) 5
 c) 4
 d) 2