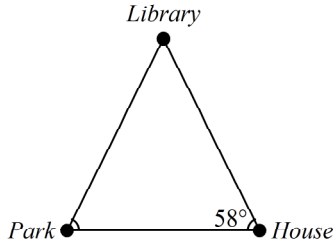


Fall Final Exam Review

- 1** Dario rode his bike from his house to the library, to the park, and then back home.

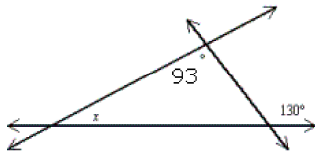
Dario realized that his route made an isosceles triangle, and that the library was the exact same distance from both his house and the park.

What is the measure of the angle at the library?



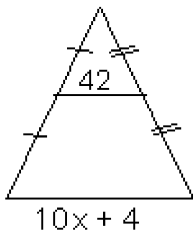
- 2** Given a triangle with vertices $A(4, -1)$, $B(-3, 0)$, and $C(7, 2)$, which points represent a reflection of $\triangle ABC$ in the y -axis?

- 3** Find the value of x :



- 4** What is a statement called that can be written in the form "if p , then q ," where p is the hypothesis and q is the conclusion?

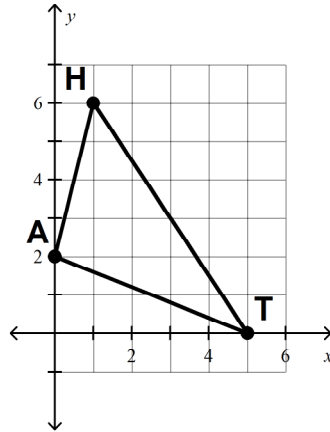
- 5**



Given the figure above.
Which equation below is true.

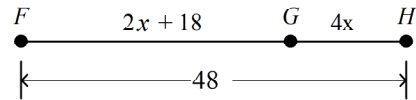
- 11** Rewrite the statement in if-then form.
Every right triangle has an angle with a measure of 90 degrees.

- 6** Given the triangle below find the equation of the perpendicular bisector of side HT .



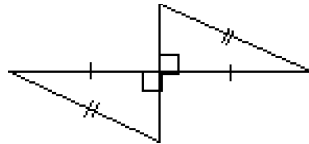
- 7** Describe in words the translation that is indicated by $(x - 2, y + 5)$. (5 pts.)

- 8** G is between F and H . $FH = 48$, $FG = 2x + 18$, and $GH = 4x$. Find FG . (5 pts.)

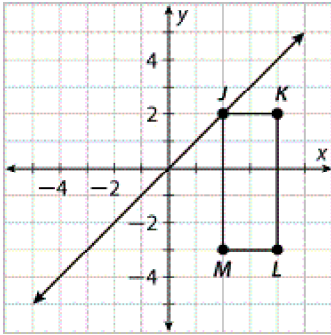


- 9** An example that proves that a statement is false is a _____.

- 10**

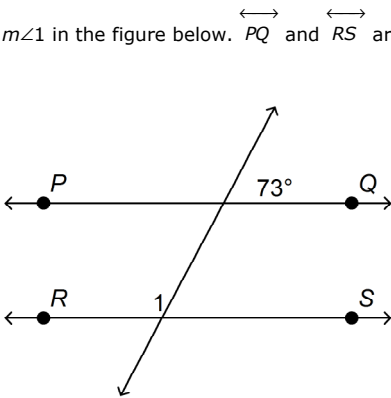


- 12 Rectangle JKLM has vertices J(2, 2), K(4, 2), L(4, -3), M(2,-3).

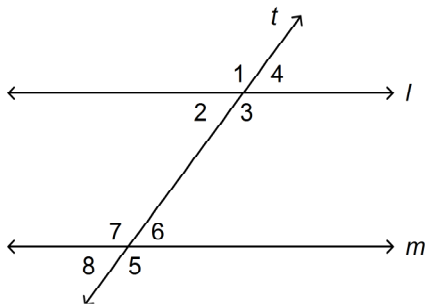


If the rectangle is reflected across the line $y = x$, what are the vertices of the reflected image?

- 13 Find $m\angle 1$ in the figure below. PQ and RS are parallel. (4 pts.)

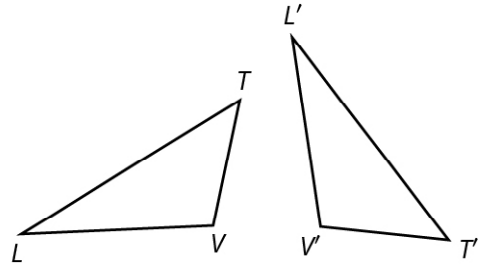


- 14 In the figure, $l \parallel m$ and t is a transversal. Which of the following is **not** necessarily true?



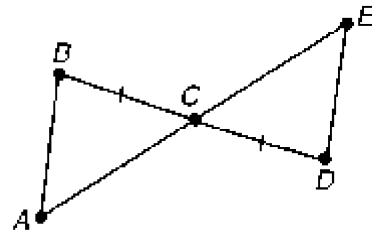
- F $\angle 8 \cong \angle 2$
- G $\angle 2 \cong \angle 6$
- H $\angle 5 \cong \angle 3$
- J $\angle 7 \cong \angle 4$

- 15 Triangles LVT and $L'V'T'$ are congruent.



Which angle must be congruent to $\angle T$? (5 pts.)

- 16 What must be true in order for $\triangle ABC \cong \triangle EDC$ by the SAS Congruence Postulate?



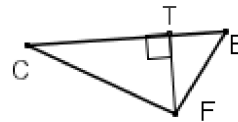
- 17 The conclusion is _____.

- A the process of reasoning that a rule or statement is true because specific cases are true
- B the part of a conditional statement following the word *then*
- C the part of a conditional statement following the word *if*
- D a statement that is believed to be true

- 18 \overleftrightarrow{FN} is the symbol for a _____.

- 19 A line passes through the points $(10, 1)$ and $(-8, 5)$. What is the slope of a line that is parallel to that line?

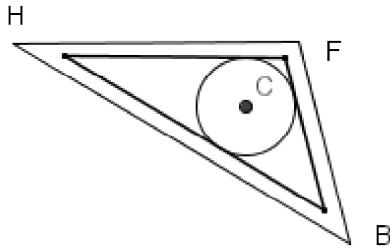
- 20 What is segment TF?



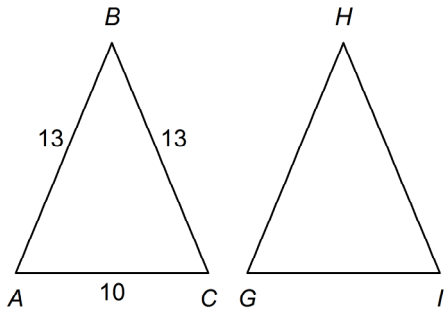
- 21 What is the slope of the line parallel to:

$$y = \frac{7}{6}x + 10$$

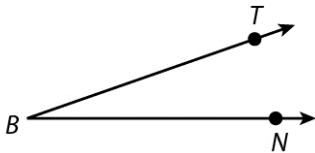
- 22 The NASA subcontractor is asked to route some tubing through a triangular brace. If the tubing just barely fits through the brace, what is point C in the figure below? (Point C is a center of the circle below)



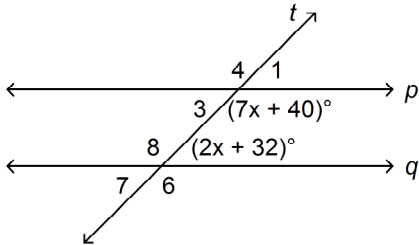
- 23 If $\triangle ABC \cong \triangle GHI$, what is the length of \overline{GH} ?



- 24 Which of the following does not name the angle correctly?



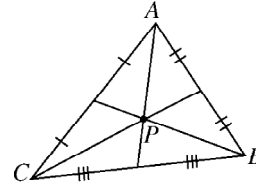
- 25 $p \parallel q$. Find $m\angle 1$. (6 pts.)



- 26 Which pair of lines is perpendicular?

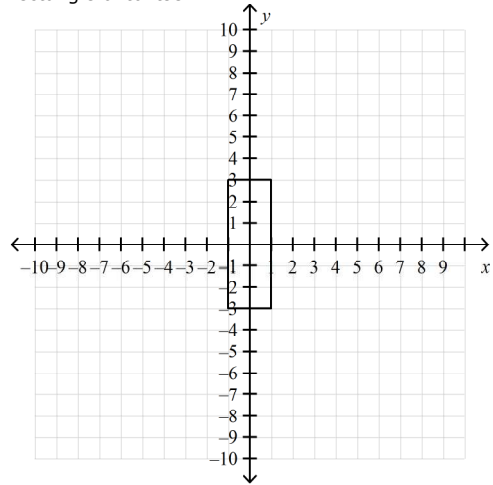
- F $y = 3x, y = \frac{1}{3}x$
 G $y = x + 2, y = -\frac{1}{2}x$
 H $y = 4x - 6, y = 4x + 6$
 J $y = \frac{3}{4}x - 1, y = -\frac{4}{3}x - 1$

- 27 Name the concurrent point P in the triangle below.

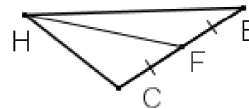


- 28 How many obtuse angles can an isosceles triangle have?

- 29 A reflection of the rectangle over which line will map the rectangle onto itself?

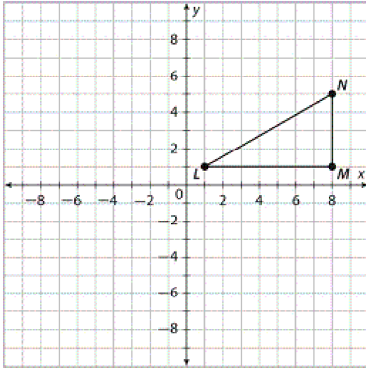


- 30 What is segment HF?



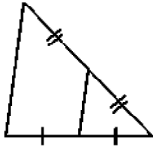
- 31 Write an equation for the line perpendicular to $y = -7x + 9$ that contains $(-9, 1)$.

32



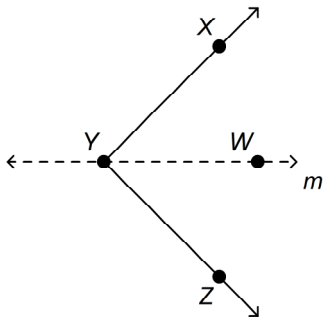
Which of these shows the image of triangle LMN after a 180° rotation about the origin?

33 What is the name of the segment inside the large triangle?



34 The lengths of two sides of a triangle are 4 inches and 9 inches. Find the range of possible lengths for the third side, s .

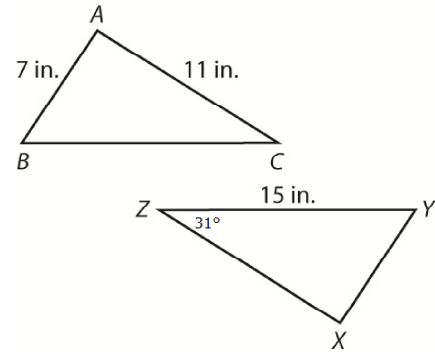
35 What can you conclude about $\angle XYZ$ if $m\angle XYW = 45^\circ$ and \overrightarrow{YZ} is the image of \overrightarrow{YX} after a reflection across line m ?



40 State a counterexample to disprove the following conjecture:

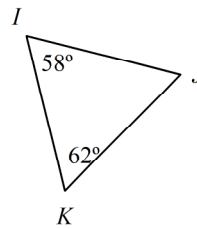
A flower is a small living thing with bright colors.

36 $\angle ABC \cong \angle XYZ$



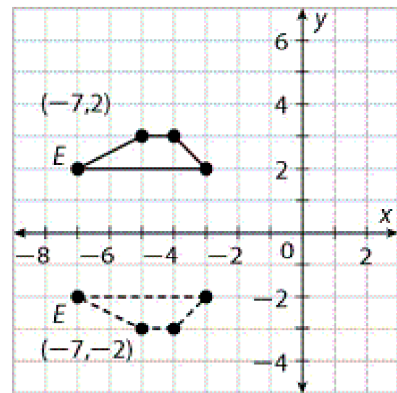
What is the measure of $\angle C$?

37 Write the sides of $\triangle IJK$ in order from shortest to longest.

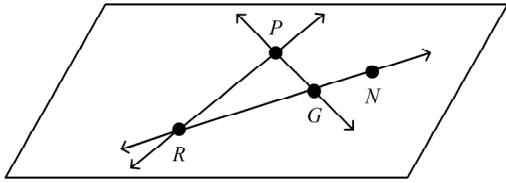


38 \overline{HT} is the symbol for _____.

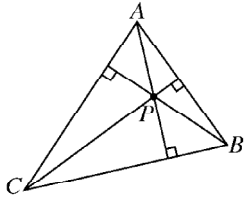
39 What transformation is described by the notation $(x, y) @ (x, -y)$?



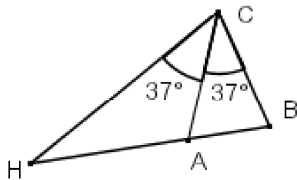
41 Name three collinear points.



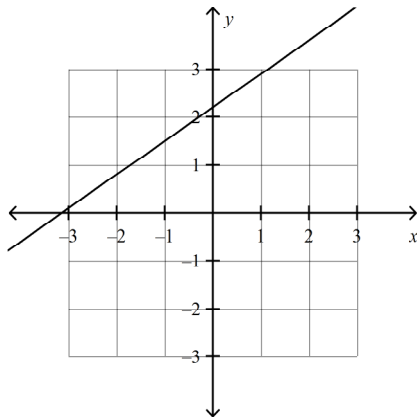
42 Name the concurrent point P in the triangle below.



43 What is segment AC?



44 Find the coordinates of the midpoint of \overline{CN} with endpoints $C(-6, -2)$ and $N(4, 5)$.

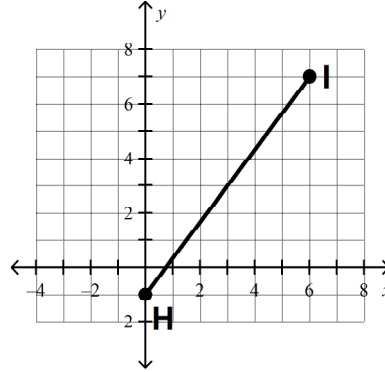


45 Find the slope of the line that passes through points $(4, 4)$, $(6, -1)$

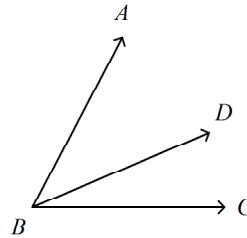
46 If $\triangle DEF \cong \triangle NOP$, which statement is NOT true?

- F $\overline{EF} \cong \overline{OP}$
- G $\overline{DF} \cong \overline{NP}$
- H $\angle F \cong \angle O$
- J $\angle D \cong \angle N$

47 Given the figure below, find the length of \overline{HI} and the midpoint of \overline{HI} .



48 $m\angle ABC = 62^\circ$ and $m\angle ABD = 39^\circ$. Find $m\angle DBC$.



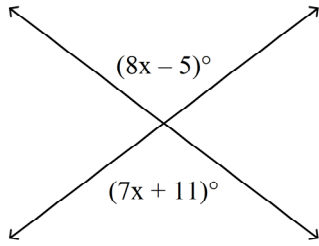
49 The hypothesis is _____.

- A the process of reasoning that a rule or statement is true because specific cases are true
- B the part of a conditional statement following the word *then*
- C the part of a conditional statement following the word *if*
- D a statement that is believed to be true

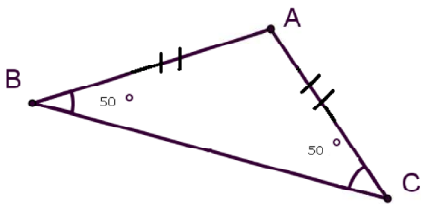
50 Where can the angle bisectors of an obtuse triangle intersect?

- I. inside the triangle
- II. on the triangle
- III. outside the triangle

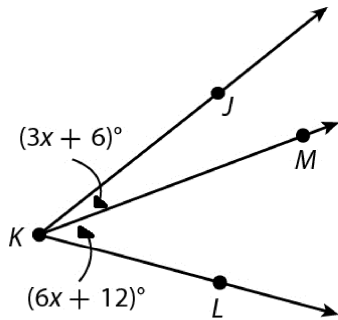
51 Find the value of x .



52 Classify the triangle below.



53 For the figure, $m\angle JKL = 54^\circ$.



Which theorem or postulate can be used to determine $m\angle MKL$?

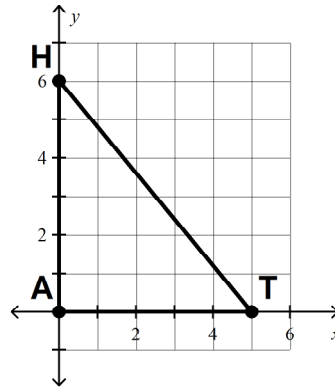
What is $m\angle MKL$?

54 _____ two points are collinear.

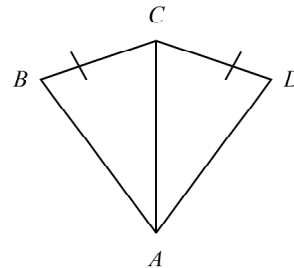
- F No
- G Any

55 You want to balance a triangular piece of cardboard on a single point. Which technique below will help you find the balance point?

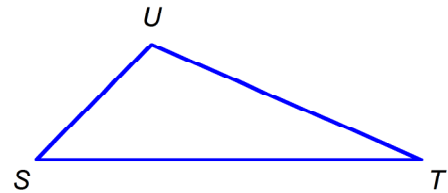
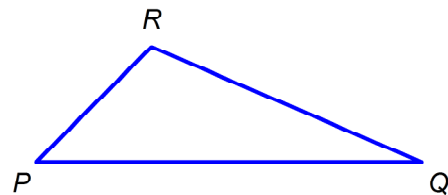
56 What is the slope of the midsegment from \overline{HA} to \overline{AT} ?



57 What additional information do you need to prove $\triangle ABC \cong \triangle ADC$ by the SAS Postulate?

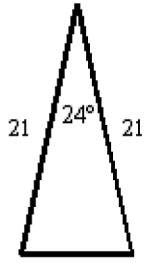


58 Given: $\overline{PR} \cong \overline{SU}$, $\overline{PQ} \cong \overline{ST}$, $\angle Q \cong \angle T$

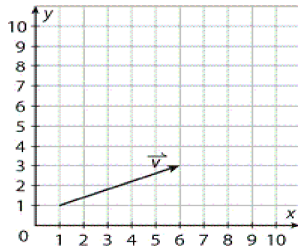


Can the two triangles be proven congruent? If yes, then by what method?

- 59 What is the measure of each base angle of an isosceles triangle if its vertex angle measures 24 degrees and its 2 congruent sides measure 21 units?

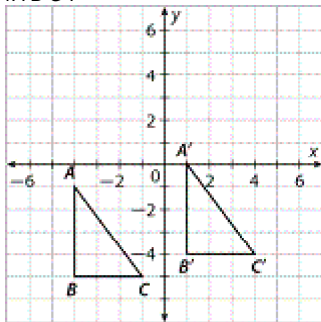


- 60 This vector represents a transformation.

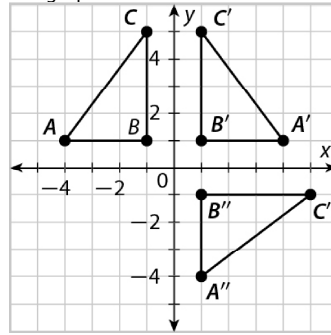


Which verbal description describes this transformation?

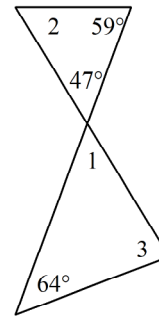
- 61 What is the vector form of the translation that maps $rABC$ to $rA'B'C'$?



- 62 Which best describes the sequence of the transformation given in the graph?



- 63 Find each measure: $m\angle 1$, $m\angle 2$, $m\angle 3$

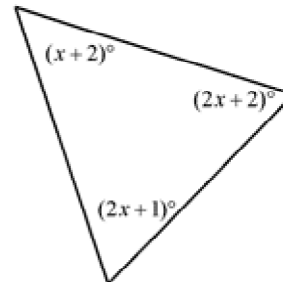


$m\angle 1 =$ _____

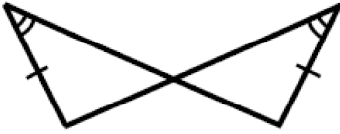
$m\angle 2 =$ _____

$m\angle 3 =$ _____

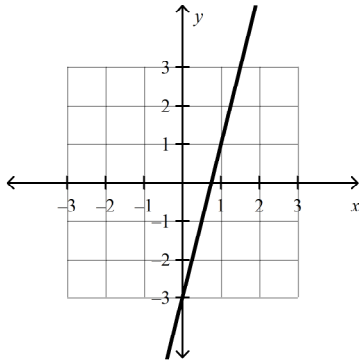
- 64 Find the measure of the interior angles. (Drawing is not to scale.)



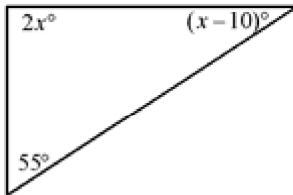
65



66 Which of the following equations describes a line parallel to the line graphed below? (4 pts.)

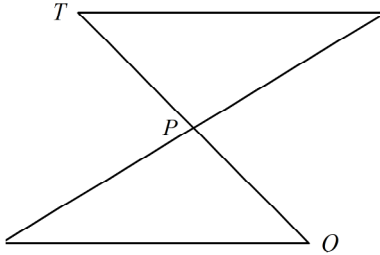


67 Use the figure below to solve for x .



70 **Given:** P is the midpoint of \overline{TQ} and \overline{RS} .

Prove: $\triangle TPR \cong \triangle QPS$

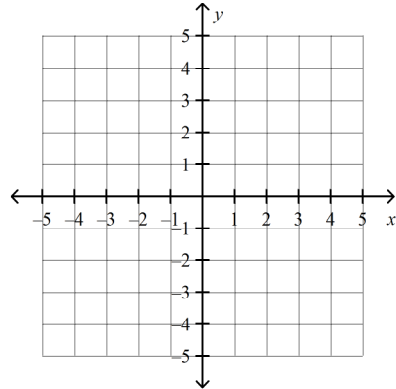


Complete the proof.

Proof:

Statements	Reasons
1. P is the midpoint of \overline{TQ} and \overline{RS} .	1. Given
2. $\overline{TP} \cong \overline{QP}$, $\overline{RP} \cong \overline{SP}$	2.
3.	3. Vertical Angles Theorem
4. $\triangle TPR \cong \triangle QPS$	4.

68 The school bus stop is located at $(-5, 1)$ and your house is located at $(3, -6)$. What is the distance, to the nearest unit, between your house and the school bus stop?



69 \overline{MN} has endpoints at $M(4, 3)$ and $N(-1, -3)$. In what quadrant is the midpoint of \overline{MN} ?

