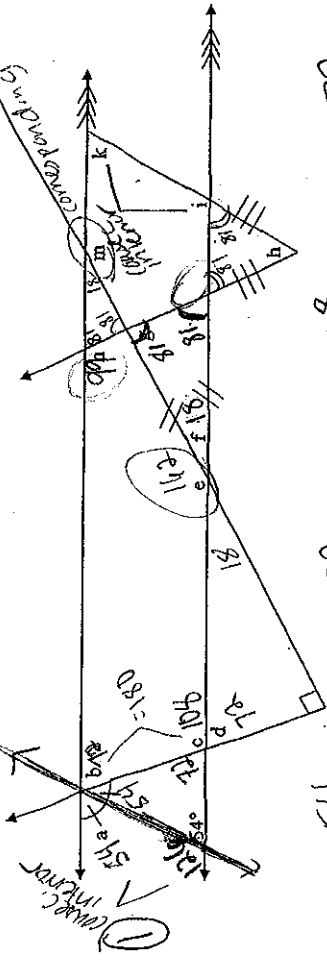
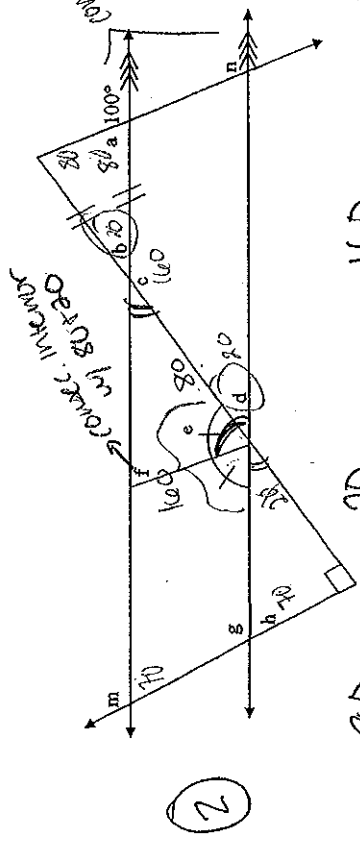


Finding Angles Practice

Block _____ Date _____



$a = \underline{54}$ $b = \underline{72}$ $c = \underline{108}$ $d = \underline{72}$
 $e = \underline{162}$ $f = \underline{18}$ $g = \underline{81}$ $h = \underline{18}$
 $i = \underline{99}$ $k = \underline{81}$ $m = \underline{162}$ $n = \underline{99}$

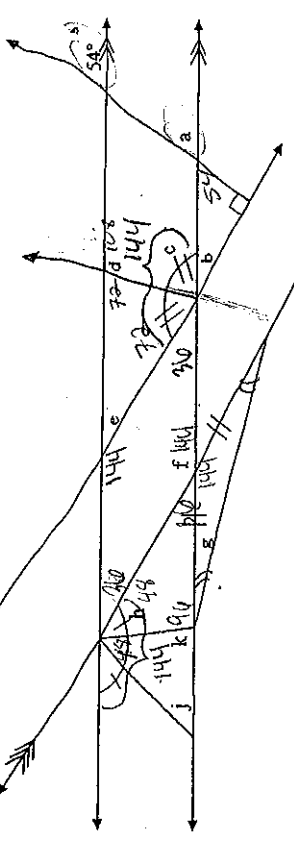


$a = \underline{80}$ $b = \underline{20}$ $c = \underline{160}$ $d = \underline{20}$
 $e = \underline{80}$ $f = \underline{80}$ $g = \underline{110}$ $h = \underline{70}$
 $m = \underline{110}$ $n = \underline{100}$

Find all missing variables listed:

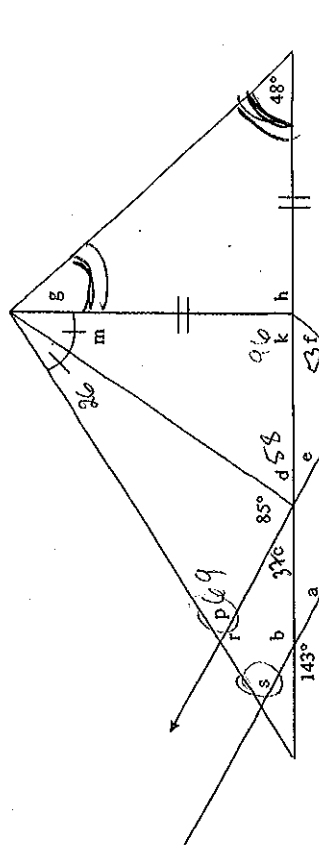
(implications)

3



$a = \underline{54}$ $b = \underline{36}$ $c = \underline{72}$ $d = \underline{108}$
 $e = \underline{30}$ $f = \underline{144}$ $g = \underline{18}$ $h = \underline{48}$
 $i = \underline{48}$ $k = \underline{84}$

4



$a = \underline{37}$ $b = \underline{143}$ $c = \underline{37}$ $d = \underline{58}$
 $e = \underline{37}$ $f = \underline{53}$ $g = \underline{48}$ $h = \underline{84}$
 $k = \underline{96}$ $m = \underline{26}$ $p = \underline{69}$ $r = \underline{111}$

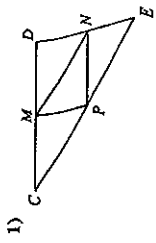
Answer

- UNIT 5 Review Packet -

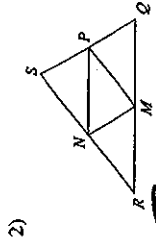
#1 angle measure (1:4)

Midsegment of a Triangle

In each triangle, M, N, and P are the midpoints of the sides. Name a segment parallel to the one given.



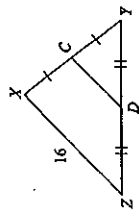
$\overline{CD} \parallel \overline{NP}$



$\overline{MN} \parallel \overline{QS}$

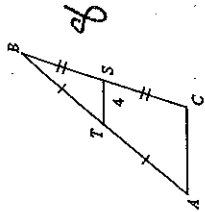
Find the missing length indicated.

3) Find CD



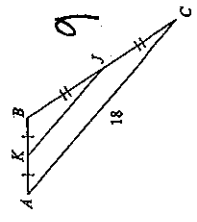
8

4) Find AC



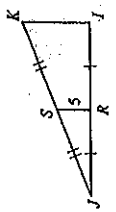
8

5) Find KJ



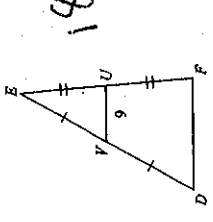
9

6) Find IK



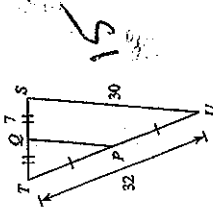
10

7) Find DF



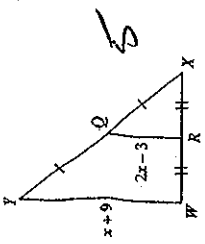
18

8) Find PQ



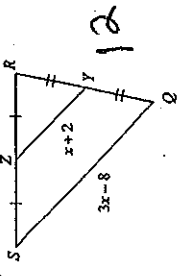
15

9)



5

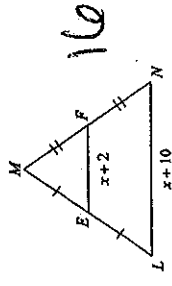
11)



12

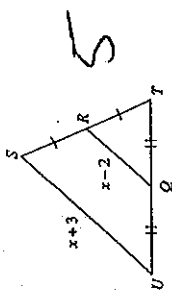
Find the missing length indicated.

13) Find LN



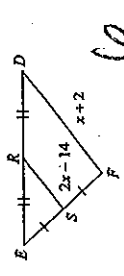
16

14) Find RQ



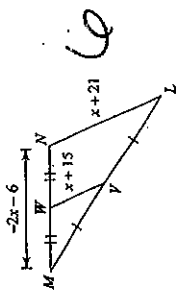
5

15) Find SR



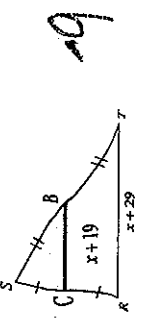
6

16) Find VW



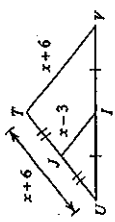
6

10)



29

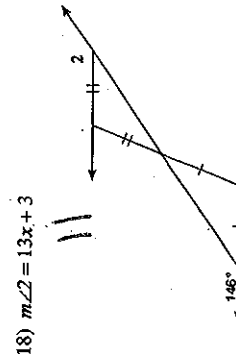
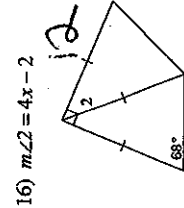
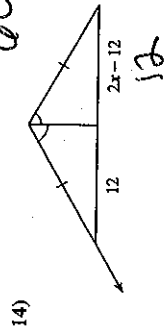
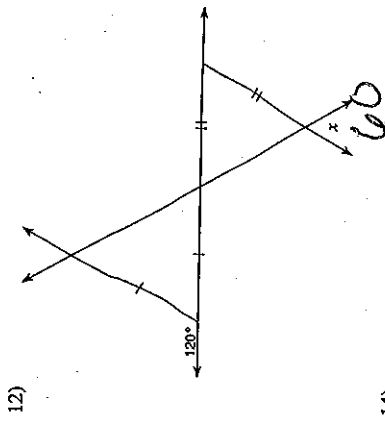
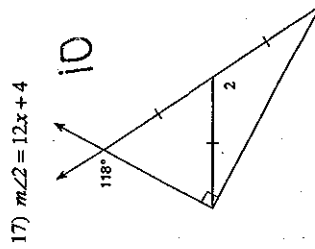
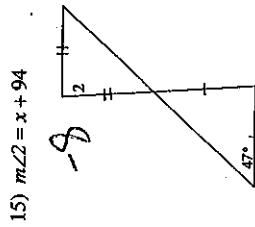
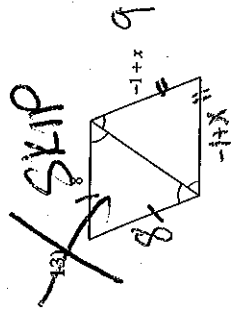
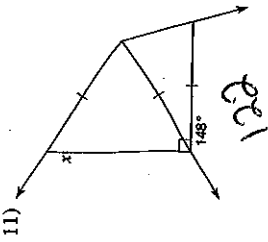
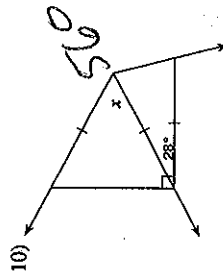
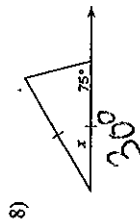
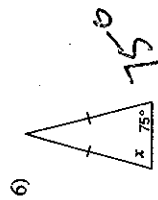
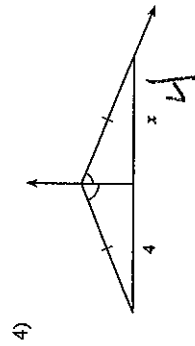
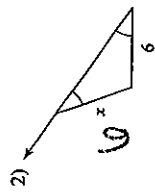
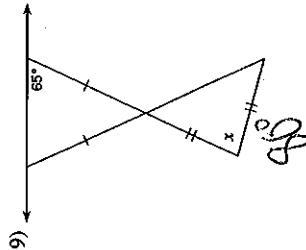
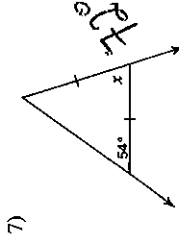
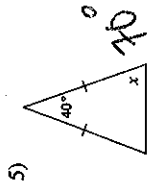
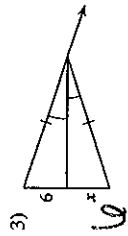
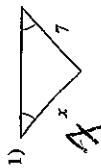
12)



12

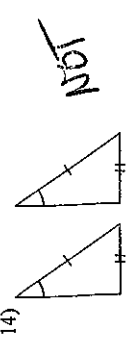
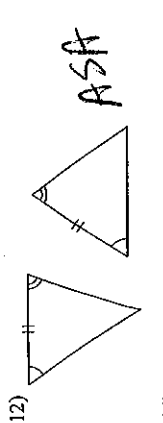
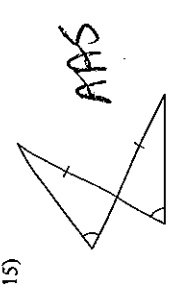
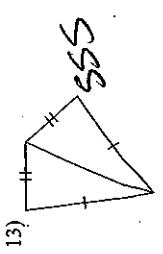
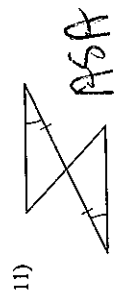
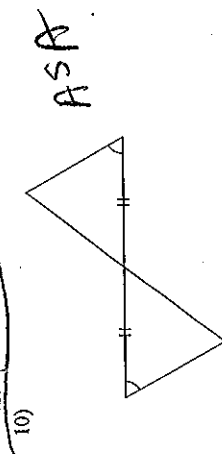
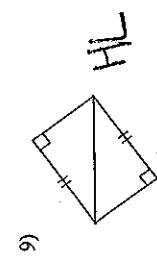
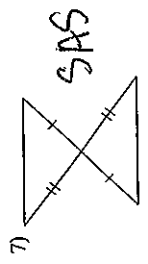
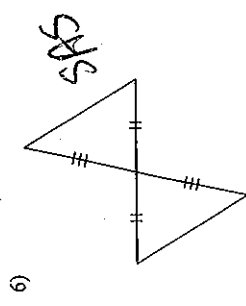
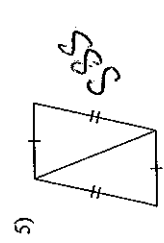
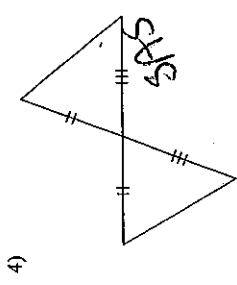
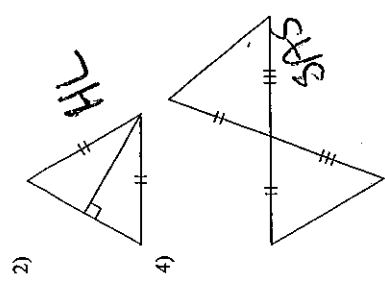
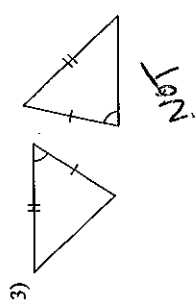
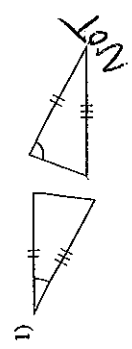
Isosceles and Equilateral Triangles

Find the value of x .



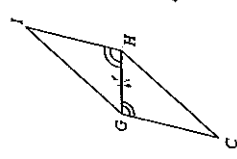
SSS, SAS, ASA, AAS, and HL Congruence
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State if the two triangles are congruent. If they are, state how you know.



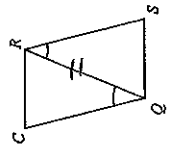
State what additional information is required in order to know that the triangles are congruent for the reason given. Name the triangles that are congruent.

17) AAS



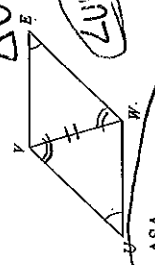
$\angle I \cong \angle C$
 $\angle I H Q \cong \angle C G H$

18) ASA



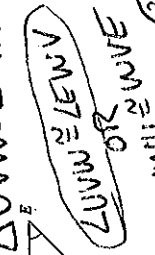
$\angle S Q R \cong \angle C R Q$
 $\angle R Q S \cong \angle Q R C$

19) AAS



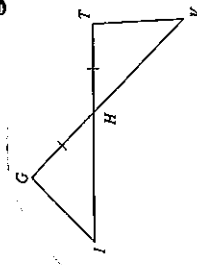
20) HL

$\triangle U V W \cong \triangle E W V$



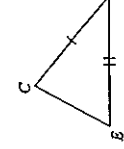
$\triangle Z Y X \cong \triangle Z Y X$
 $\overline{Y X} \cong \overline{Y X}$

21) ASA



22) SSS

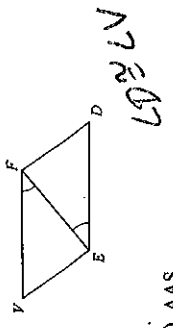
$\triangle L N U \cong \triangle U N V$



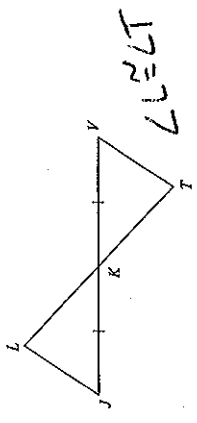
$\overline{E C} \cong \overline{N L}$

$\angle G \cong \angle T$

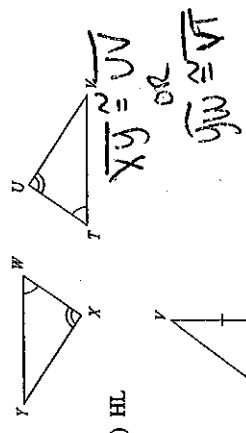
23) AAS



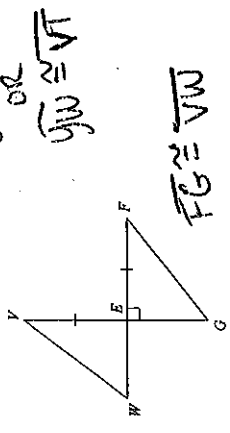
25) AAS



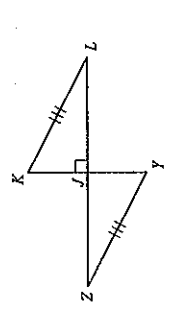
27) AAS



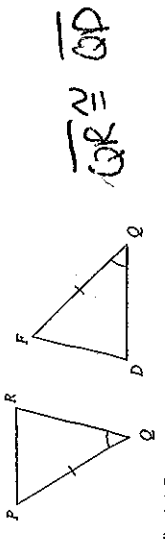
29) HL



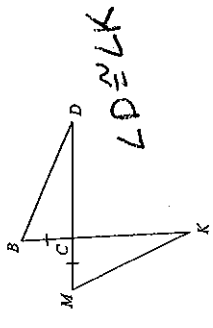
31) HL



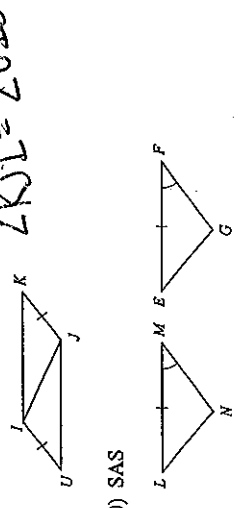
24) SAS



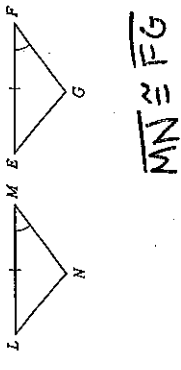
26) AAS



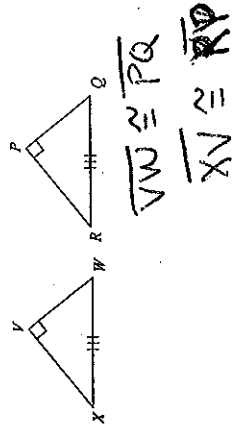
28) SAS



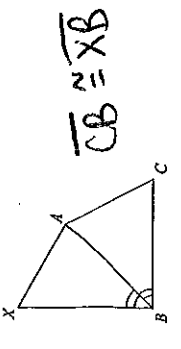
30) SAS



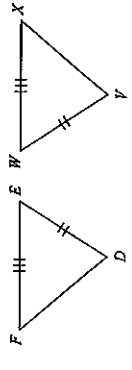
32) HL



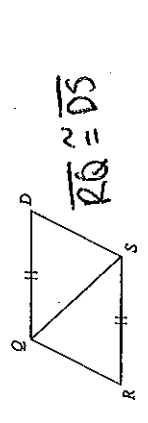
33) SAS



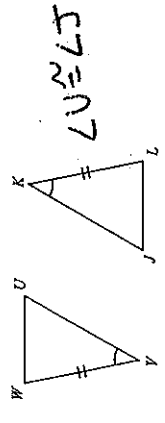
35) SAS



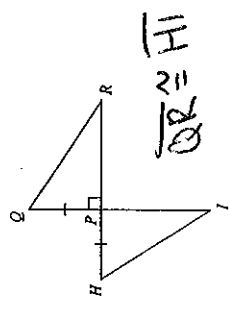
37) SSS



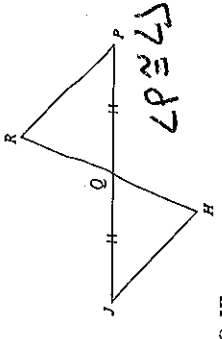
39) AAS



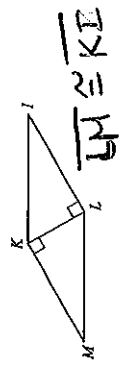
41) HL



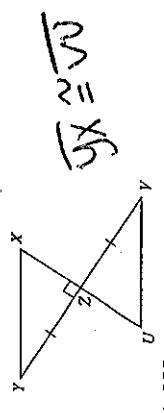
34) ASA



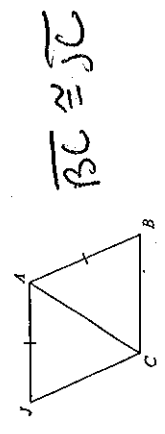
36) HL



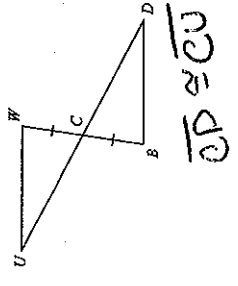
38) HL



40) SSS



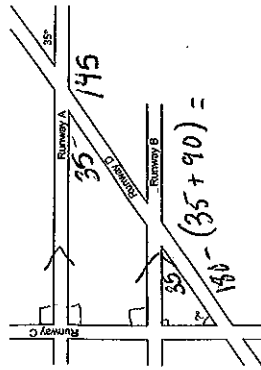
42) SAS



$\overline{JK} \cong \overline{JY}$
 $\overline{LJ} \cong \overline{ZJ}$

Name: _____ Date: _____

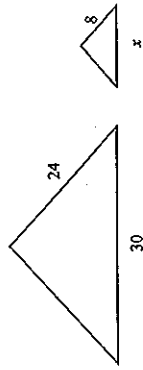
1. Use the diagram below to answer the following question(s).



Runways A and B are parallel to each other and perpendicular to Runway C. If Runway D makes a 35° angle with Runway A as shown in the diagram, what is the measure of the angle marked in the diagram between Runways C and D?

~~15~~ 55

2. The triangles shown below are similar.



The scale factor from the large triangle to the small triangle is 3:1. What is the length of side x of the smaller triangle?

- A. 10
- B. 14
- C. 72
- D. 90

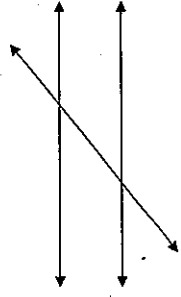
3. What is the length of the line segment that has endpoints at $(-5, 3)$ and $(4, 5)$?

- A. $\sqrt{121}$
- B. $\sqrt{85}$
- C. $\sqrt{65}$
- D. $\sqrt{11}$

4. Coordinates $A(-2, 4)$ and $B(-4, 1)$ lie on a coordinate plane. What is the midpoint of line segment AB ?

- A. $(\frac{5}{2}, -3)$
- B. $(-\frac{5}{2}, 3)$
- C. $(-3, \frac{5}{2})$
- D. $(3, \frac{5}{2})$

5. If two parallel lines are cut by a nonperpendicular transversal, which type of angles are *not* congruent?

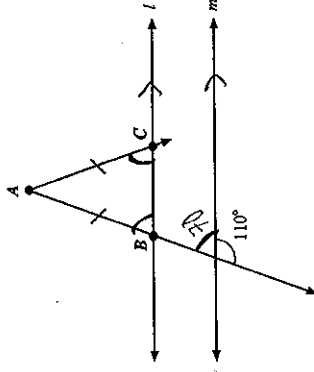


- A. corresponding angles
- B. alternate interior angles
- C. alternate exterior angles
- D. same-side interior angles

6. Joe needs to find the midpoint of a line segment on a coordinate plane. Given the coordinates of the endpoints, what is the *best* way for him to find the midpoint of the line segment?

- A. substitute the coordinates into the midpoint formula
- B. substitute the coordinates into the point-slope formula
- C. plot them on graph paper, draw the line, and count the squares to the middle
- D. plot them on graph paper, create a right triangle, and use the Pythagorean Theorem

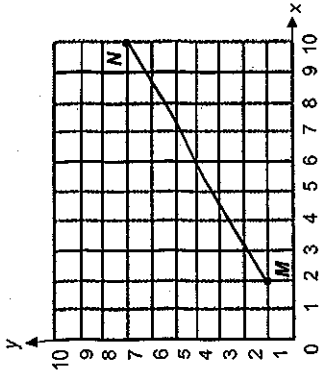
7. Use the figure below to answer the following question(s).



In the figure shown above, lines l and m are parallel, and $\triangle ABC$ is isosceles. What is the measure of $\angle ABC$?

- A. 40°
- B. 50°
- C. 60°
- D. 70°

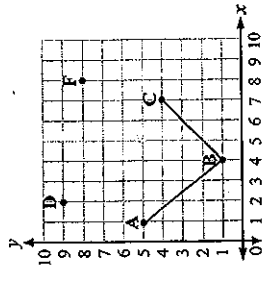
8. Look at \overline{MN} on the coordinate plane.



What is the distance between the endpoints of \overline{MN} ?

- A. 5 units
- B. 6 units
- C. 8 units
- D. 10 units

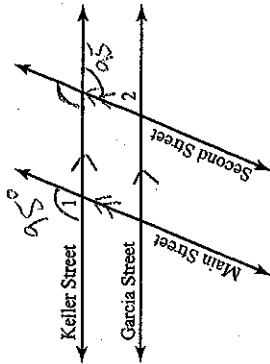
9. Carl is making a copy of $\angle ABC$.



Which is a point where Carl could place point E so that $\angle DEF$ is congruent to $\angle ABC$?

- A. $(4, 5)$
- B. $(5, 5)$
- C. $(5, 6)$
- D. $(6, 6)$

10. The lines in the diagram below represent four streets in Linda's hometown.

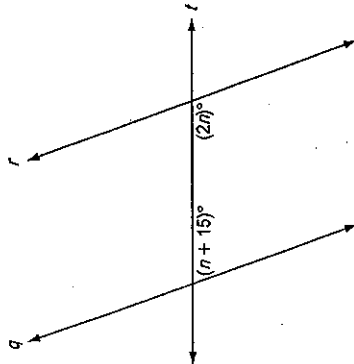


Keller Street is parallel to Garcia Street, and Main Street is parallel to Second Street.

If the $m\angle 1 = 95^\circ$, what is the $m\angle 2$?

- A. 75° B. 95° C. 95° D. 105°

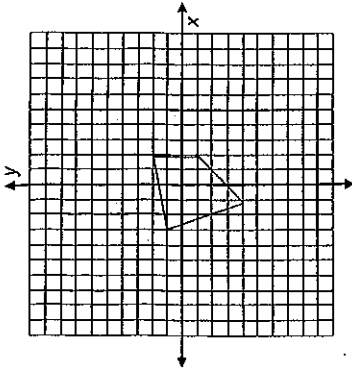
The line plot below shows the cost, in dollars, of each item sold at a bake sale.



What fraction of the items sold cost \$5 or less?

- A. $\frac{1}{3}$ B. $\frac{1}{2}$ C. $\frac{2}{3}$ D. $\frac{3}{4}$

12. The coordinates $(2, 2)$ and $(-3, 1)$ are two of the vertices of the figure on the coordinate plane.

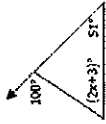


What are the coordinates of the midpoint of the two vertices?

- A. $(\frac{1}{2}, \frac{3}{2})$ B. $(\frac{3}{2}, \frac{1}{2})$
 C. $(\frac{1}{2}, \frac{1}{2})$ D. $(\frac{3}{2}, \frac{3}{2})$

Name: _____ Class: _____
 Mixed Practice Date: _____

13. Find the value of x . Show work and explain.



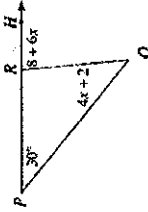
$x = 33$

14. In $\triangle ABC$, the $m\angle B$ is twice the $m\angle A$ and the $m\angle C$ is three times the $m\angle A$. Find the number of degrees in each angle of the triangle. Show work and explain.

$x \rightarrow m\angle A = 30$
 $2x \rightarrow m\angle B = 60$
 $3x \rightarrow m\angle C = 90$

$x + 2x + 3x = 180$
 $6x = 180$
 $x = 30$

15. Find the $m\angle PRQ$. Show work and explain.



$30 + 4x + 2 = 8 + 6x$
 $32 + 4x = 8 + 6x$
 $32 = 8 + 2x$
 $24 = 2x$
 $x = 12$

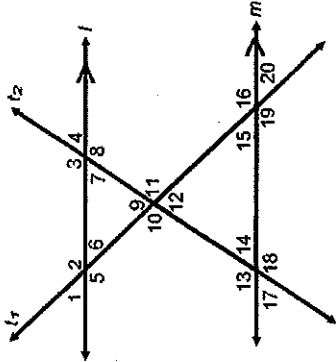
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Geometry Review Sheet

Multiple Choice

Identify the choice that best completes the statement or answers the question.

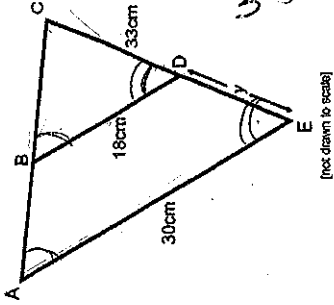
Use the following figure to answer questions 1 – 5. Note: $m \parallel n$ cut by transversal t_1 and t_2



1. Which pair of angles are alternate interior angles?
 a) $\angle 7$ & $\angle 4$ b) $\angle 7$ & $\angle 9$ c) $\angle 3$ & $\angle 13$ d) $\angle 1$ & $\angle 20$
2. Which pair of angles are alternate exterior angles?
 a) $\angle 15$ & $\angle 16$ b) $\angle 1$ & $\angle 20$ c) $\angle 4$ & $\angle 14$ d) $\angle 13$ & $\angle 18$
3. Which pair of angles are corresponding angles?
 a) $\angle 15$ & $\angle 16$ b) $\angle 9$ & $\angle 11$ c) $\angle 1$ & $\angle 15$ d) $\angle 4$ & $\angle 13$
4. Which pair of angles are supplementary angles?
 a) $\angle 9$ & $\angle 12$ b) $\angle 4$ & $\angle 7$ c) $\angle 5$ & $\angle 12$ d) $\angle 2$ & $\angle 6$
5. Which pair of angles are vertical angles?
 a) $\angle 6$ & $\angle 9$ b) $\angle 15$ & $\angle 11$ c) $\angle 13$ & $\angle 14$ d) $\angle 15$ & $\angle 20$

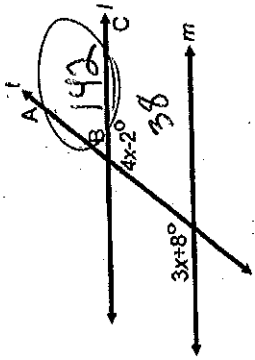
Similar angles, but not similar triangles. Sides are equal, but angles are not. Similar triangles. Similar angles, but not similar triangles. Similar angles, but not similar triangles. Similar angles, but not similar triangles.

6. $\triangle ACE \sim \triangle BCD$. Find the value of y . Show work. (3 pts)



$30/18 = 99/y$
 $14/y = 59/33$
 $x = 10$
 $4x - 2 = 38 + x$
 $x = 10$

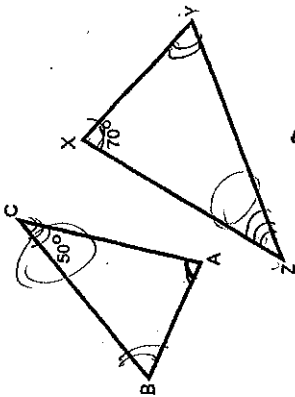
7. In the following diagram $m \parallel n$ cut by transversal t . (3 pts)



[not drawn to scale]

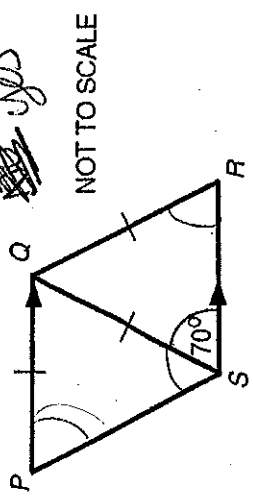
What is the measure of $\angle ABC$? Show work and explain.

8. $\triangle ABC \sim \triangle XYZ$. Label the missing angle measures in the diagram. (3 pts)

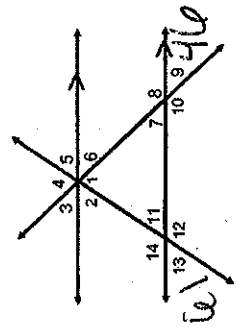


The $m\angle XZY = 50^\circ$

10. Are triangles PQS and QRS similar? Show work and explain. (3 pts)

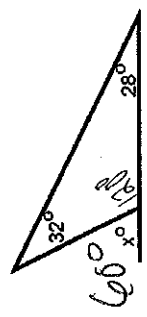


11. If the $m\angle 13 = 61^\circ$ and $m\angle 9 = 46^\circ$. Complete the table below for each angle and explain. (5 pts)



Angle	Measure	Reason
$\angle 11$	61	$\angle 3, 11$ are vertical
$\angle 8$	134	$\angle 9, 8$ are supp. ($180 - 46$)
$\angle 2$	61	$\angle 2, 13$ are corresponding
$\angle 4$	73	
$\angle 7$	46	vertical (907)

9. Given the following diagram, find the value of x. (3 pts)



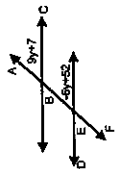
Explain how you arrived at your answer.
 Sum of remote interior angles
 $(32 + 28 = 60)$ is equal to exterior

28, 62

Two complementary angles measure $3x-5$ and $5x+7$.
What is the measure of the larger angle? Show work and explain.

$3x-5 + 5x+7 = 90$
 $8x+2 = 90$
 $8x = 88$
 $x = 11$

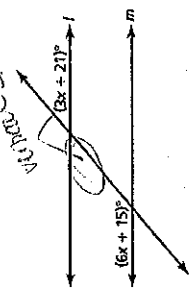
Find the value of y . Find the degree measure of $\angle ABC$.



$9y+7 = -6y+8$
 if parallel, but
 since it doesn't say
 not enough info

14

In the diagram below, line l and line m are parallel.



$3x+21 + 6x+15 = 180$

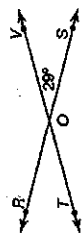
[not drawn to scale]

Which equation could be used to solve for x ? Explain why.

- A $6x + 3x = 15 + 21$
- B $6x + 15 = 3x + 21$
- C $6x + 15 + 3x + 21 = 90$
- D $6x + 15 + 3x + 21 = 180$

16

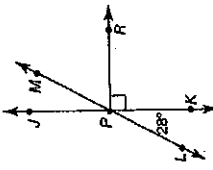
Lines RS and TV intersect at point O .



Which statement is true?

- F $m\angle TOR = 28^\circ$, $m\angle ROV = 151^\circ$
 $m\angle TOS = 151^\circ$
- G $m\angle TOR = 28^\circ$, $m\angle ROV = 151^\circ$
 $m\angle TOS = 28^\circ$
- H $m\angle TOR = 28^\circ$, $m\angle ROV = 28^\circ$
 $m\angle TOS = 151^\circ$
- J $m\angle TOR = 151^\circ$, $m\angle ROV = 28^\circ$
 $m\angle TOS = 28^\circ$

17
Lines JK and LM intersect at point P .
Ray PR is perpendicular to line JK .



$180 - 28 = 152$

What is the measure of angle JPQ ?

- F 142°
- G 152°
- H 162°
- I 172°

4

3