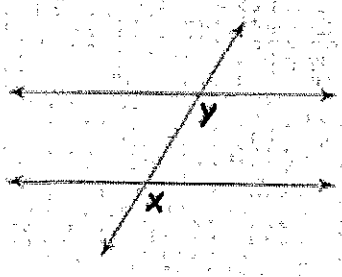
e Mathematics

Name Hirsch

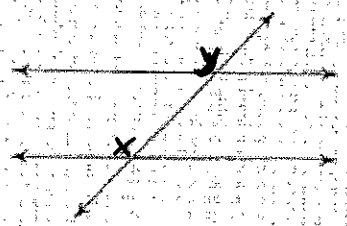
.allel Lines & Transversals

Date

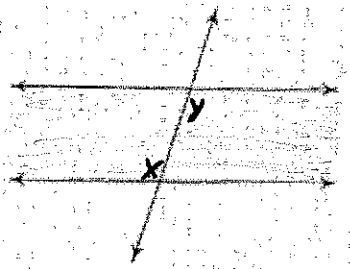
Identify each pair of angles as corresponding, alternate interior, alternate exterior, same-side interior, vertical, or adjacent. Then identify as supplementary, complementary, or a linear pair.

1) 

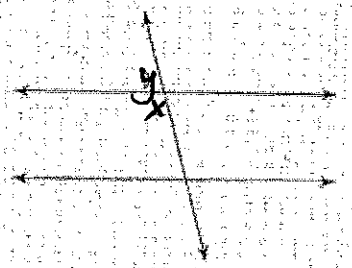
corresponding

2) 

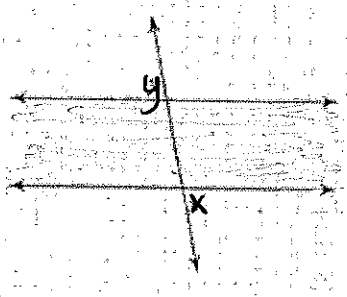
corresponding

3) 

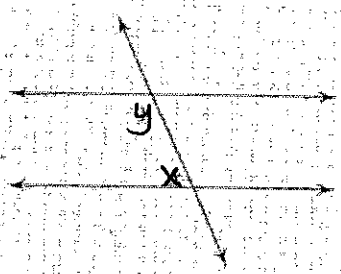
Alternate Interior

4) 

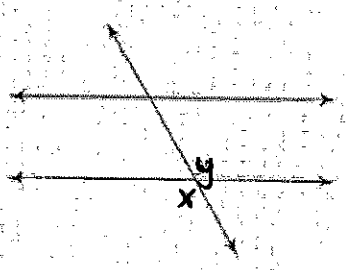
Linear Pair
Also Adjacent

5) 

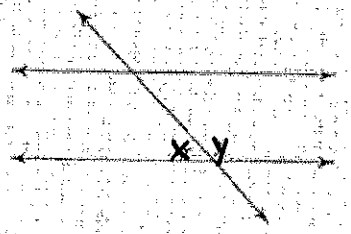
Alternate Exterior

6) 

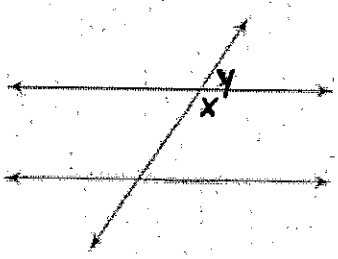
same side interior

7) 

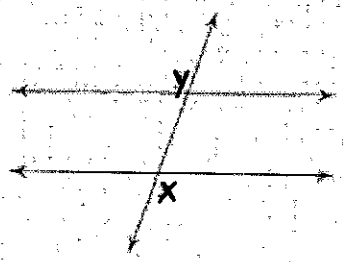
vertical

8) 

Linear Pair
Also Adjacent

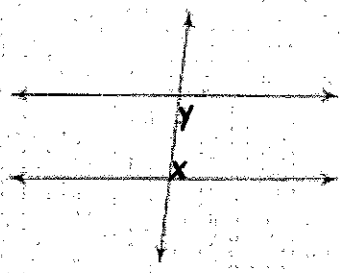
9) 

Linear Pair
Also Adjacent

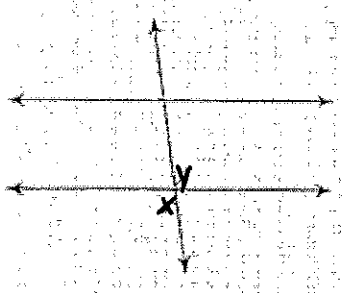
10) 

Alternate Exterior

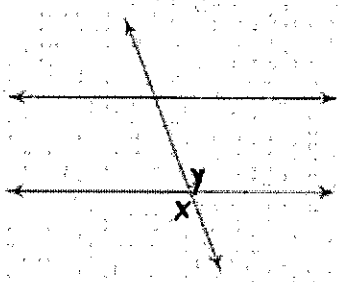
1

11) 

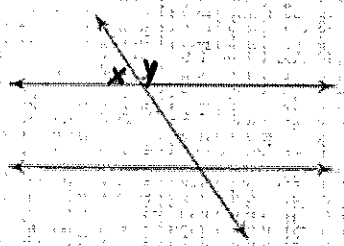
same side interior

12) 

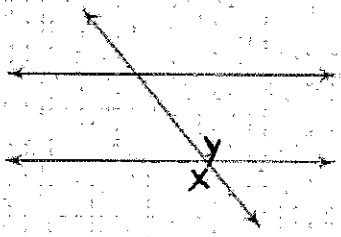
vertical

13) 

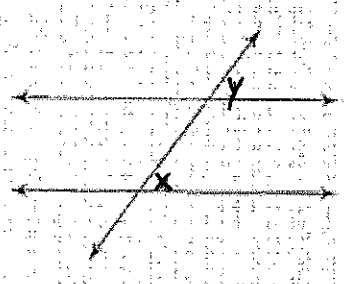
vertical

14) 

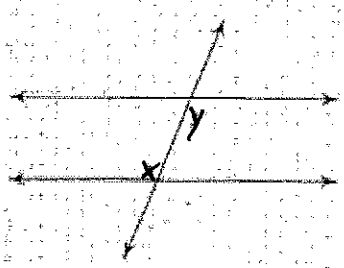
Linear pair
Also adjacent

15) 

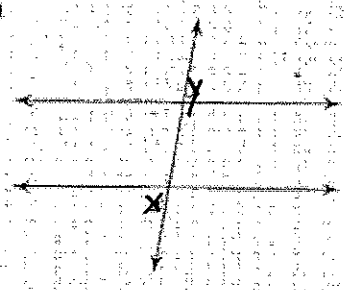
vertical

16) 

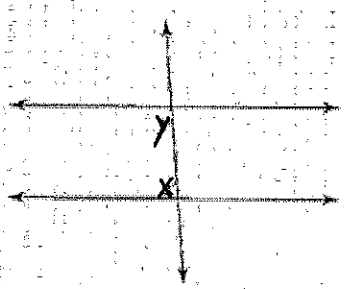
corresponding

17) 

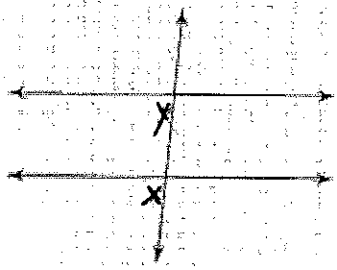
alternate interior

18) 

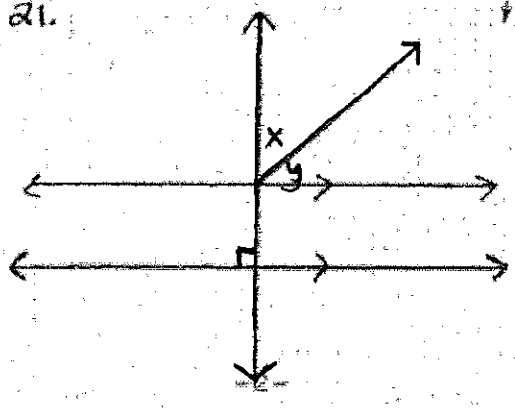
alternate exterior

19) 

same side interior

20) 

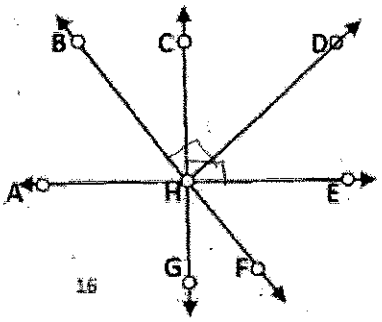
corresponding

21. 

adjacent and complementary

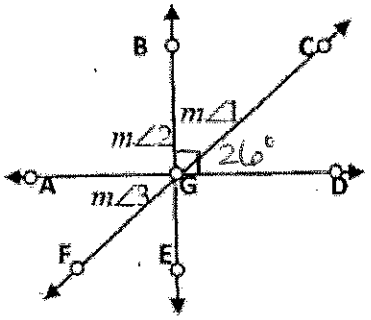
PROBLEMS

Copy and complete the statement given that $m\angle BHD = m\angle CHE = 90°$.



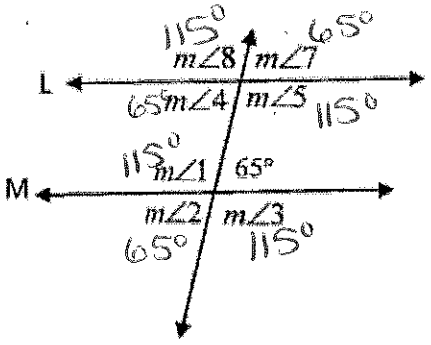
1. $m\angle AHG =$ 90°
2. $m\angle CHA =$ 90°
3. *If* $m\angle CHD = 31°$, *then* $m\angle DHE =$ 59° 90-31-comp.
4. *If* $m\angle BHA = 48°$, *then* $m\angle EHF =$ 48° vertical ∠'s
5. *If* $m\angle GHF = 38°$, *then* $m\angle AHB =$ 52° 90 - 38 = 52° complenentary and then vertical

If $m\angle BGD = 90°$ *and* $m\angle CGD = 26°$, find



6. $m\angle 1$ 90-26 = 64° complementary
7. $m\angle 2$ 180-90 = 90° supplementary
8. $m\angle 3$ 26° vertical ∠'s are ≅
9. $m\angle FGE$ = to ∠1 so 64° vertical
10. $m\angle DGE$ 180-90 = 90° supplementary

Lines L and M are parallel, find



11. $m\angle 1$ 115°
12. $m\angle 2$ 65°
13. $m\angle 3$ 115°
14. $m\angle 4$ 65°
15. $m\angle 5$ 115°
16. $m\angle 6$ 65°
17. $m\angle 7$ 65°
18. $m\angle 8$ 115°

180-65
115

PROBLEMS:

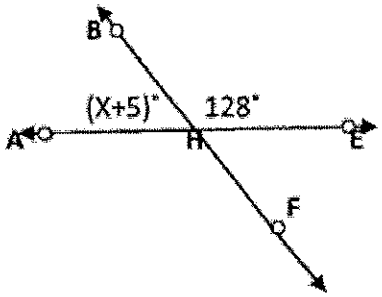
11. Solve for x in the diagram Justify

$x+5+128=180$

$x+133=180$

$-133 \quad -133$

$x=47$ linear pairs are supplementary



12. Solve for x in the diagram Justify

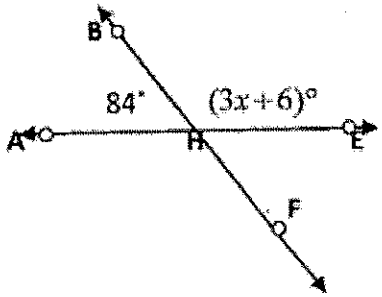
$84+3x+6=180$

$90+3x=180$

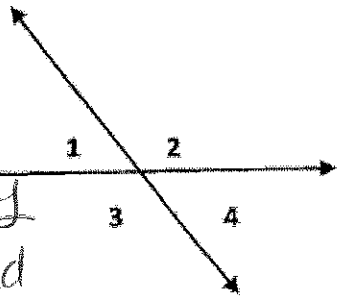
$-90 \quad -90$

$\frac{3x}{3}=\frac{90}{3}$

$x=30$ linear pairs are supplementary



Use the diagram to decide whether the statement is true or false.



13. *If* $m\angle 1 = 47°$, *then* $m\angle 2 = 43°$. False, linear pairs are supplementary, not complementary!

14. *If* $m\angle 1 = 47°$, *then* $m\angle 3 = 47°$. False, not congruent they are supplementary

15. $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$. True, both are sets of linear pairs that add up to 180°

16. $m\angle 1 + m\angle 4 = m\angle 2 + m\angle 3$. False, both are vertical ∠'s but the sets are not = to each other.

Find the value of the variable.

using vertical ∠'s are ≅

$13x+9=15x-1$

$-13x \quad -13x$

$9=2x-1$

$+1 \quad +1$

$\frac{10}{2}=\frac{2x}{2}$

$x=5$

$4y+2=2(3y-25)$

$4y+2=6y-50$

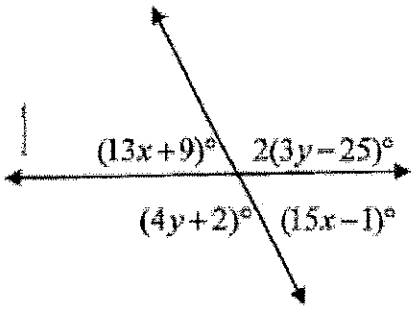
$-4y \quad -4y$

$2=2y-50$

$+50 \quad +50$

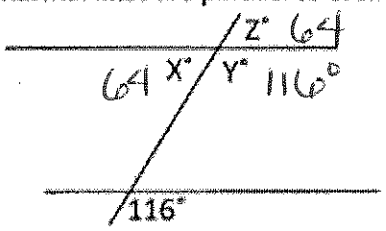
$\frac{52}{2}=\frac{2y}{2}$

$y=26$



17. Find the value of x, y, and z (the horizontal lines are parallel to each other)

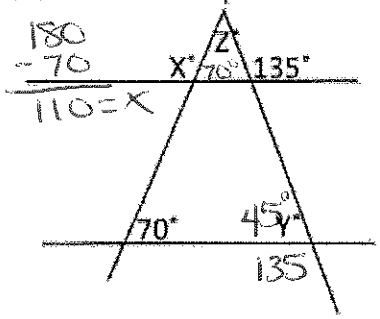
x= 64°
y= 116°
z= 64°



180
-116
64

18. Find the value of x, y, and z (the horizontal lines are parallel to each other)

x= 110°
y= 45°
z= 65°

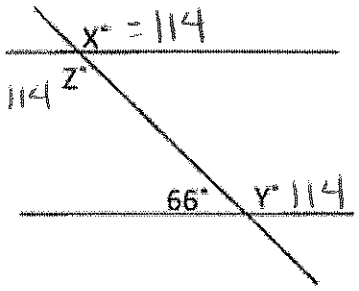


Z → 180
-70
-45
65

180
-135
45 = y

19. Find the value of x, y, and z (the horizontal lines are parallel to each other)

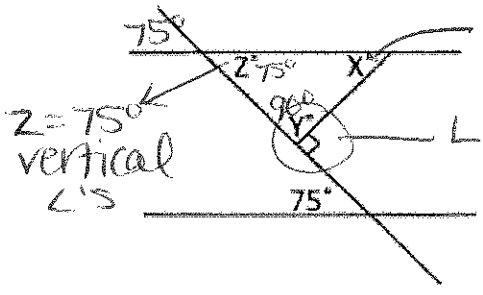
x= 114°
y= 114°
z= 114°



180
-66
114 = y

20. Find the value of x, y, and z (the horizontal lines are parallel to each other)

x= 15°
y= 90°
z= 75°



Z = 75° vertical ∠'s

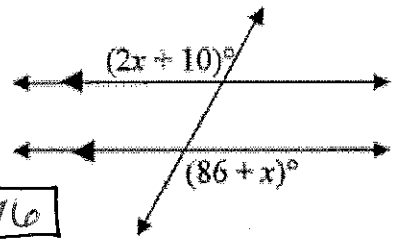
Δ's add up to 180 so...
180 - 90 - 75 = 15

Linear Pairs so y = 90

5

Identify the type of angles and their relationship. Write the equation used to solve for x. Then, find the value of x. Put a box around your answer.

3.



x = 76

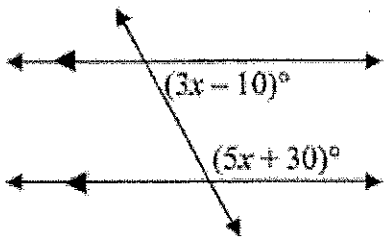
type of angles: Alt. Exterior

relationship: congruent

equation: $2x+10 = 86+x$

$2x+10 = 86+x$
$-x-10 \quad -10-x$
$x = 76$

4.



x = 20

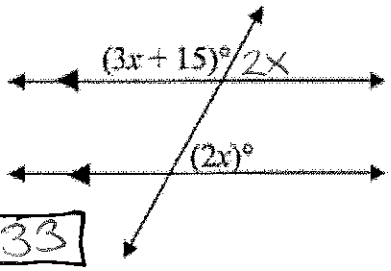
type of angles: same side interior

relationship: supplementary

equation: $3x-10+5x+30 = 180$

$8x+20 = 180$
$-20 \quad -20$
$\frac{8x}{8} = \frac{160}{8}$ $x = 20$

5.



x = 33

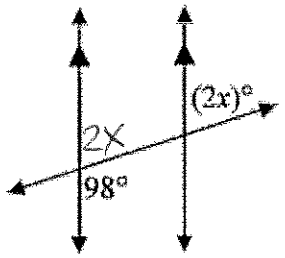
type of angles: Linear Pair of a corresponding angle

relationship: supplementary

equation: $3x+15+2x = 180$

$5x+15 = 180$
$-15 \quad -15$
$\frac{5x}{5} = \frac{165}{5}$
$x = 33$

6.



x = 41

type of angles: Linear Pair of a corresponding angle

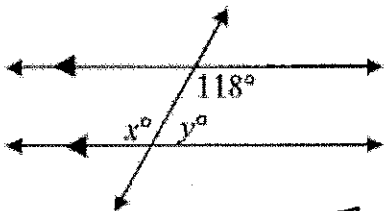
relationship: supplementary

equation: $98+2x = 180$

$-98 \quad -98$
$\frac{2x}{2} = \frac{82}{2}$
$x = 41$

Find the values of x and y. Put a box around your answer.

7.



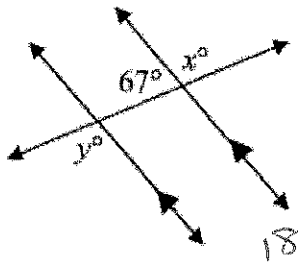
180
−118
62

x = 118 y = 62

alt. interior to 118° so =

Linear pair to x or same side interior of 118, so supplementary

8.



180
−67
113

x = 113 Linear pairs

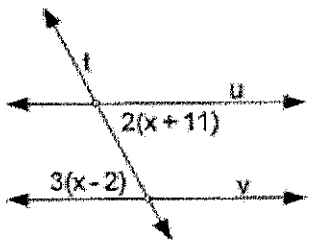
y = 113 alt. ext. to ∠x.

6

Euclidean Geometry Using Algebra in Geometry Name: _____
Sections 3.1 – 3.3 Parallel Lines #2 Date: _____

Set up and solve each problem on notebook paper. Show steps for the Algebra. Assume lines that look parallel are. After finding the value of the variable, state the size of the angles.

1.



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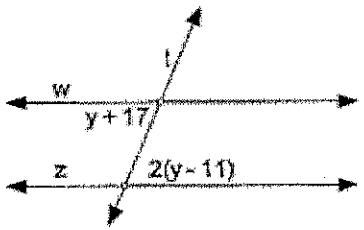

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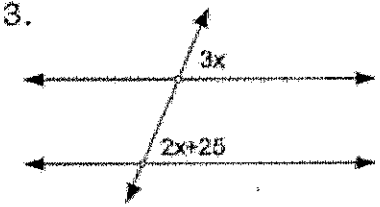
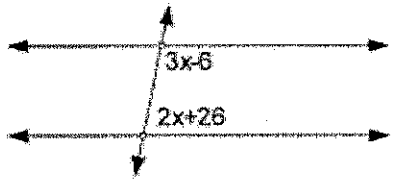


4.



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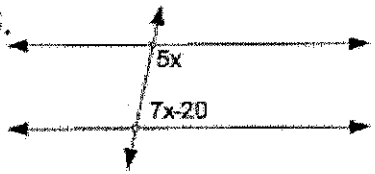

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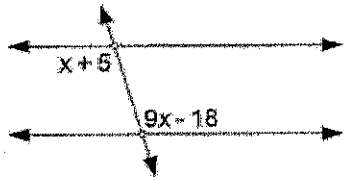

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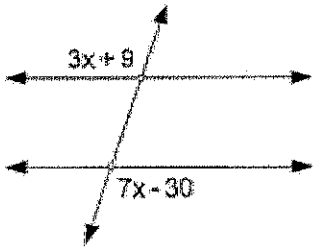

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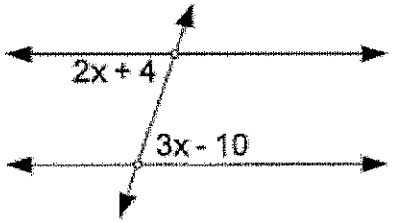

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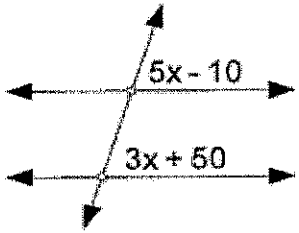

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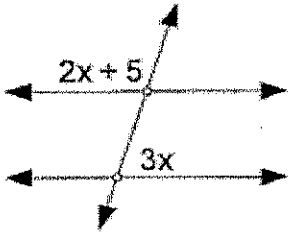
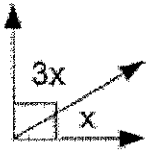
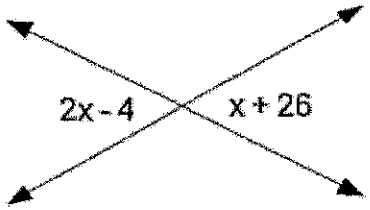


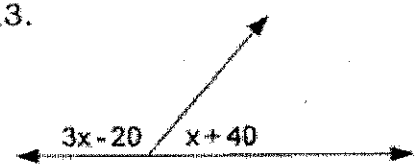
11.



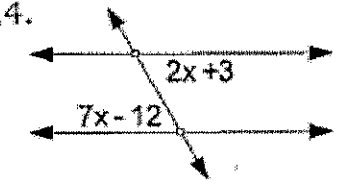
12.



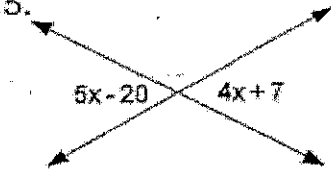
13.



14.



15.



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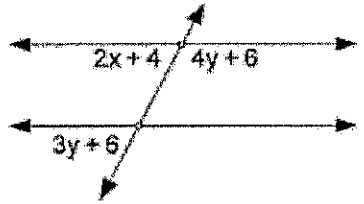
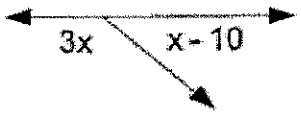


17.



For each... → set up and solve for variable (SHOW WORK)
→ Tell the type of Angles they are and justify your answer (ex. vertical angles are ≅)
→ substitute back in and tell the actual angle measures.

(3)

Page 7

(1) $2(x+11) = 3(x-2)$

$2x+22 = 3x-6$

$-2x \quad -2x$

$22 = x-6$

$+6 \quad +6$

$28 = x$

Alternate Interior Angles are congruent

Each angle is 60° or 120° accordingly.

(2) $y+17 = 2(y-11)$

$y+17 = 2y-22$

$-y \quad -y$

$17 = y-22$

$+22 \quad +22$

$39 = y$

Alternate interior Angles are congruent.

Each angle is 56° or 124°

(3) $3x = 2x+25$

$-2x \quad -2x$

$x = 25$

corresponding angles are congruent.

Each angle is 75° or 105°

(4) $3x-6+2x+26 = 180$

$5x+20 = 180$

$-20 \quad -20$

$\frac{5x}{5} = \frac{160}{5}$

$x = 32$

Same side Interior Angles are Supplementary

Each angle is 90°

(5) $5x + 7x - 20 = 180$ — same side interior angles are supplementary

$12x - 20 = 180$

$+20 \quad +20$

$\frac{12x}{12} = \frac{200}{12}$ $x = 16.6667$ — Each angle is 83.333° or 96.6667°

(6) $x + 5 = 9x - 16$ — Alternate Interior angles are congruent

$-x \quad -x$

$5 = 8x - 16$

$+16 \quad +16$

$\frac{21}{8} = \frac{8x}{8}$ $x = 2.625$ — Each angle is 7.625° or 172.375°

(7) $3x + 9 = 7x - 30$ — Alternate Exterior Angles are congruent

$-3x \quad -3x$

$9 = 4x - 30$

$+30 \quad +30$

$\frac{39}{4} = \frac{4x}{4}$ $x = 9.75$ — Each angle is 38.25° or 141.75°

(8) $2x + 4 = 3x - 10$ — Alternate Interior Angles are congruent

$-2x \quad -2x$

$4 = x - 10$

$+10 \quad +10$

$14 = x$ — Each angle is 32° or 148°

(9) $5x - 10 = 3x + 50$ corresponding angles are congruent.

$-3x \quad -3x$

$2x - 10 = 50$

$+10 \quad +10$

$\frac{2x}{2} = \frac{60}{2}$ $x = 30$ Each angle is 140° or 40°

(10) $2x + 5 + 3x = 180$ supplementary Angles

$5x + 5 = 180$

$-5 \quad -5$

$\frac{5x}{5} = \frac{175}{5}$ $x = 35$

(11) $3x + x = 90$ complementary angles

$\frac{4x}{4} = \frac{90}{4}$ $x = 22.5$

(12) $2x - 4 = x + 26$ vertical angles are congruent.

$-x \quad -x$

$x - 4 = 26$

$+4 \quad +4$

$x = 30$

(13) $3x-20+x+40=180$ Linear Pairs are supplementary

$4x+20=180$

$-20 \quad -20$

$\frac{4x}{4}=\frac{160}{4}$ $x=40$

(14) $7x-12=2x+3$ Alternate Interior Angles are congruent

$-2x+12 \quad -2x+12$

$\frac{5x}{5}=\frac{15}{5}$ $x=3$

(15) $5x-20=4x+7$ vertical angles are congruent

$-4x+20 \quad -4x+20$

$x=27$

(16) $3y+6+4y+6=180$ supplementary angles

$7y+12=180$

$-12 \quad -12$

$\frac{7y}{7}=\frac{168}{7}$ $y=24$

$2x+4+4y+6=180$

$2x+4+4(24)+6=180$

$2x+106=180$

$-106 \quad -106$

$\frac{2x}{2}=\frac{74}{2}$ $x=37$

(17) $3x+x-10=180$

$+10 \quad +10$

$\frac{4x}{4}=\frac{190}{4}$

$x=47.5$

linear pairs are supplementary

Review of Dilations

Name: _____

Period: _____ **Date:** _____

A **Dilation** is a transformation that produces an image that is the same shape as the original but different size.

- Dilations are similar to the original figure.
- Dilations are centered around the origin (0, 0), unless otherwise stated. (Point of Origin, "C")

Scale factor – is $\frac{\text{Dilated Image Length}}{\text{Original Image Length}}$, which is a _____.

- If the scale factor is greater than 1, the figure becomes bigger. This is a Enlargement
- If the scale factor is between 0 and 1, the figure becomes smaller. This is a Reduction

Example: Would the following scale factors be an enlargement or a reduction?

1. $\frac{5}{2}$ enlargement
2. $\frac{1}{4}$ Reduction
3. $\frac{2}{5}$ Reduction
4. $\frac{2}{2}$ Neither
5. $\frac{7}{3}$ Enlargement

Rule: $(x, y) \rightarrow (kx, ky)$ where k represents scale factor. multiply the coordinates by the scale factor.

Example 1: Triangle ABC has vertices A (8, 1), B (2, 4), and C (-2, 6).
What are the vertices of its dilated image with a scale factor of 2?

A' (16, 2) B' (4, 8) C' (-4, 12)

Example 2: Triangle ABC has vertices A (0, 2), B (4, 4), and C (-1, 4).
What are the vertices of its *image* with a scale factor of 4?

A' (0, 8) B' (16, 16) C' (-4, 16)

Example 3: Triangle ABC has vertices A (4, 12), B (-8, 4), and C (-20, 0).
What are the vertices of its *image* with a scale factor of 1/4?

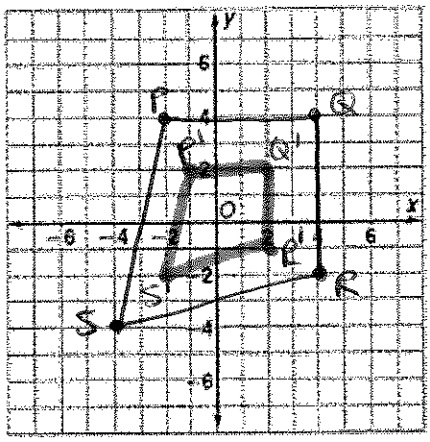
A' (1, 3) B' (-2, 1) C' (-5, 0)

8

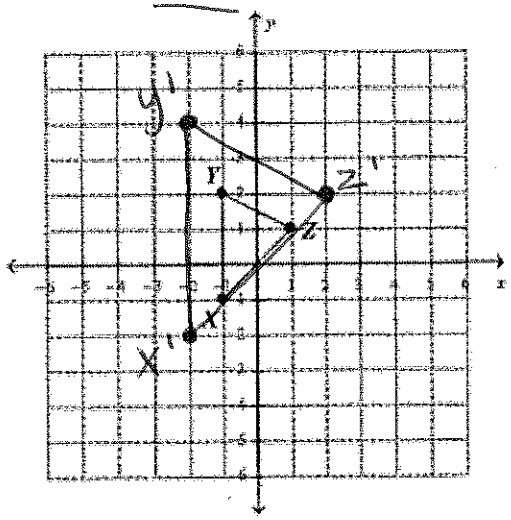
Example 4: Quadrilateral $PQRS$ has vertices P (-2, 4), Q (4, 4), R (4, -2), and S (- 4, - 4). It is dilated by a scale factor of ½.

P' (-1, 2) Q' (2, 2) R' (2, -1) S' (-2, -2)

Graph the original image and the dilated image below.



Example 5: Triangle XYZ is graphed below. Draw and label Triangle $X'Y'Z'$ after a dilation using a scale factor of two.

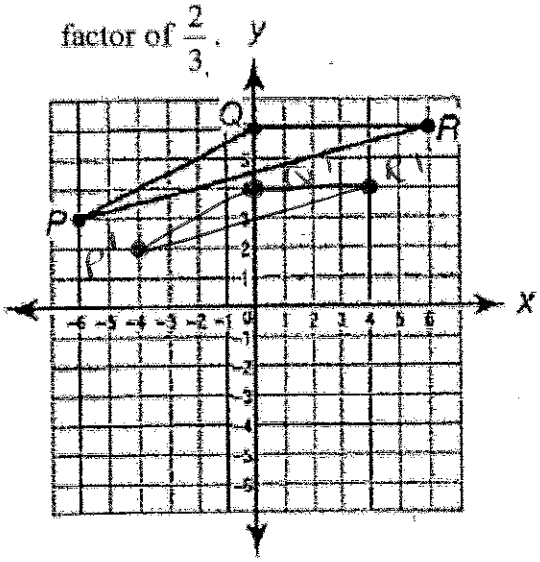


X (-1, -1) X' (-2, -2)

Y (-1, 2) Y' (-2, 4)

Z (1, 1) Z' (2, 2)

Example 5: Triangle PQR is graphed below. Draw and label Triangle $P'Q'R'$ after a dilation using a scale factor of $\frac{2}{3}$.



P (-6, 3) P' (-4, 2)

Q (0, 6) Q' (0, 4)

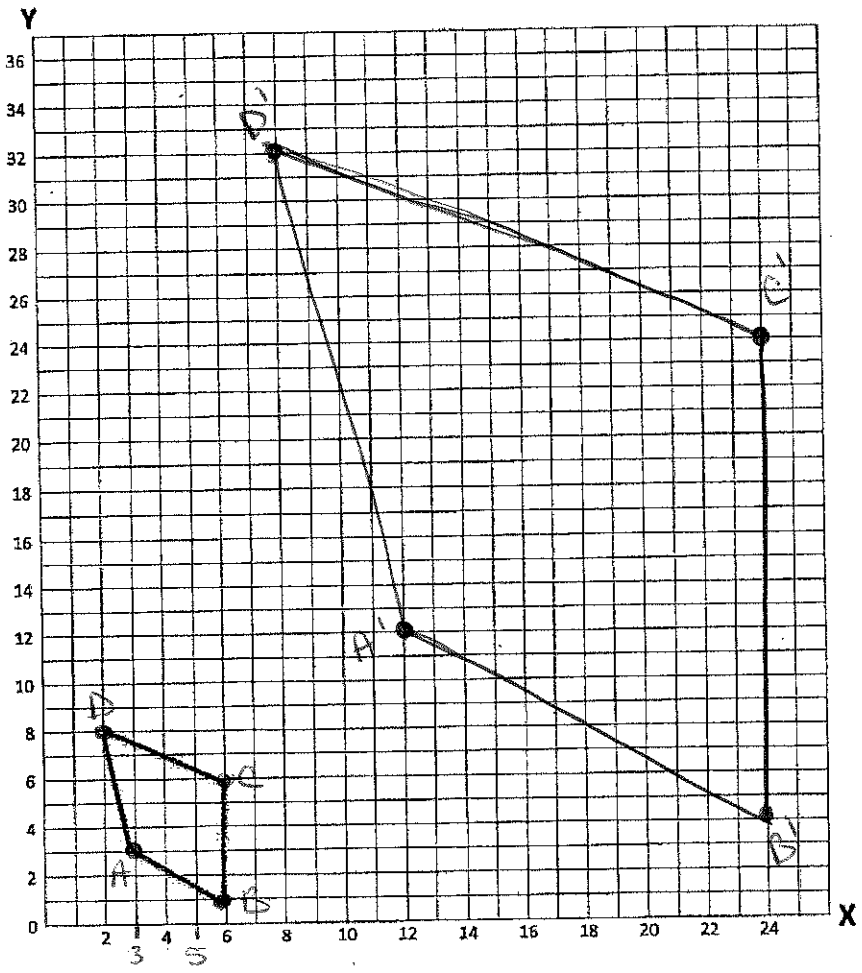
R (6, 6) R' (4, 4)

9

DILATIONS PRACTICE WORKSHEET

Name: Date:

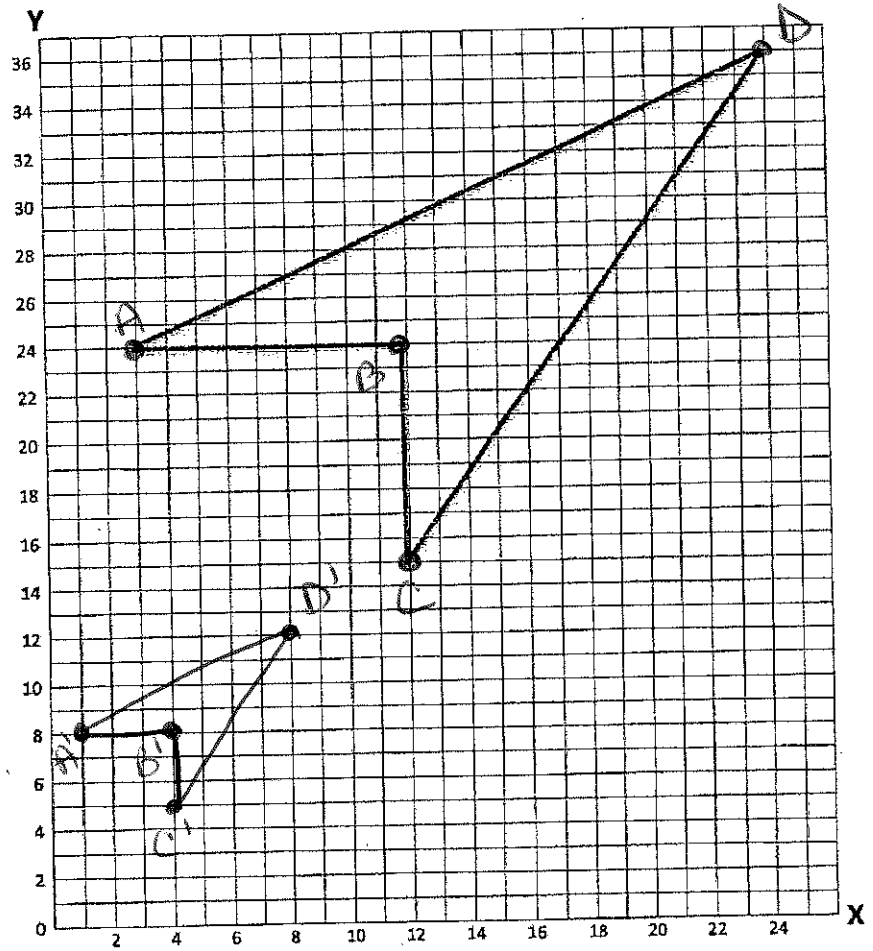
1. Construct a dilation of the image with a scale factor of 4. Label the coordinates of the vertices.



A (3,3) A' (12,12)
B (6,1) B' (24,4)
C (6,6) C' (24,24)
D (2,8) D' (8,32)

10

2. Construct a dilation of the image with a scale factor of $\frac{1}{3}$. Label the coordinates of the vertices.

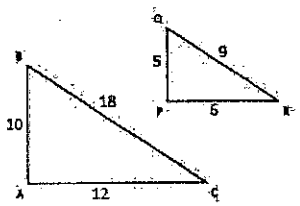


A (3,24) A' (1,8)
B (12,24) B' (4,8)
C (12,15) C' (4,5)
D (24,36) D' (8,12)

11

Similar Triangles

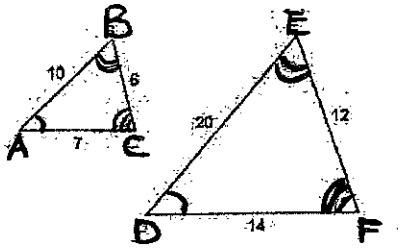
9.



$\frac{5}{10} = \frac{1}{2}$ $\frac{9}{18} = \frac{1}{2}$ $\frac{6}{12} = \frac{1}{2}$

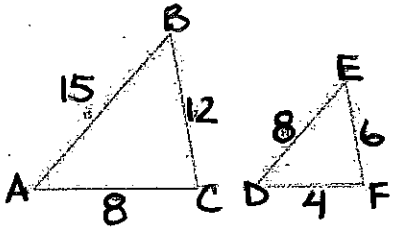
$\triangle ABC \sim \triangle PQR$ by the SSS similarity Theorem

10.



$\triangle ABC \sim \triangle DEF$ by AA similarity Postulate

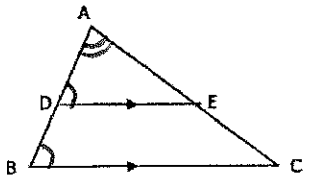
11.



$\frac{4}{8} = \frac{1}{2}$ $\frac{6}{12} = \frac{1}{2}$ $\frac{5}{15}$

Not similar because all 3 sides are not proportional

12.



$\triangle ADE \sim \triangle ABC$ by AA similarity Postulate

* $\angle A$ is the same $\angle$ in both triangles
* $\angle D \cong \angle B$ because they are corresponding angles.

(12)

Geometry Name: _____

Worksheet Date: _____ Period: _____

Find x in each figure below. (**Remember: The sum of three angles in any triangle is 180°**)

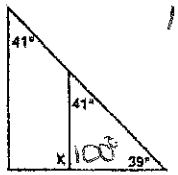
1.

$180 - 40 = 140 = 2x$

$\frac{140}{2} = \frac{2x}{2}$

$x = 70°$

2.



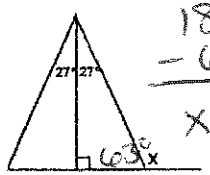
$180 - 41 - 39$

$100°$

$180 - 100$

$80° = x$

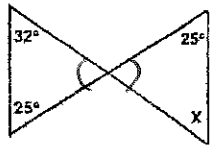
3.



$180 - 63$

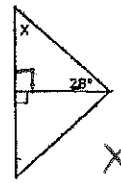
$x = 117°$

4.



$x = 32°$

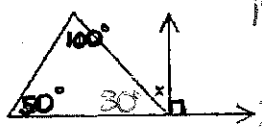
5.



$180 - 90 - 28$

$x = 62°$

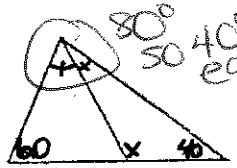
6.



$180 - 90 - 30$

$x = 60°$

7.



$80°$ so $40°$ each

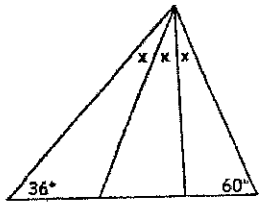
$180 - 60 - 40$

80

$180 - 40 - 40$

$x = 100°$

8.



$180 - 60 - 36$

$\frac{84}{3} = \frac{3x}{3}$

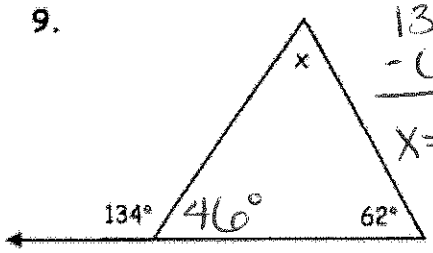
$x = 28°$

(13)

Rule: Ext∠ = Sum of 2 non-adj Interior ∠'s

Find the value of x in each picture using the exterior angle theorem (in most cases).

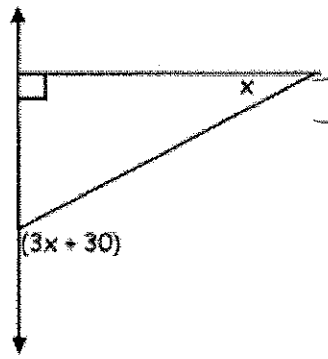
9.



134
-62
x = 72°

x = 72°

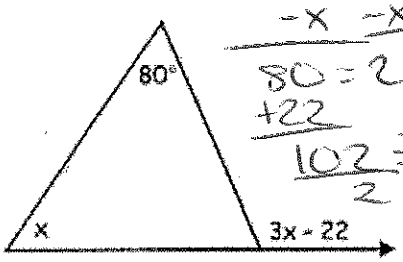
10.



x + 90 = 3x + 30
-x -x
90 = 2x + 30
-30 -30
60/2 = 2x/2
x = 30

x = 30

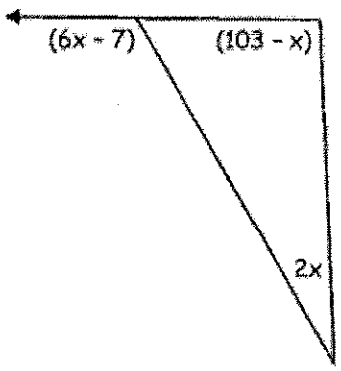
11.



80 + x = 3x - 22
-x -x
80 = 2x - 22
+22 +22
102/2 = 2x/2
x = 51

x = 51

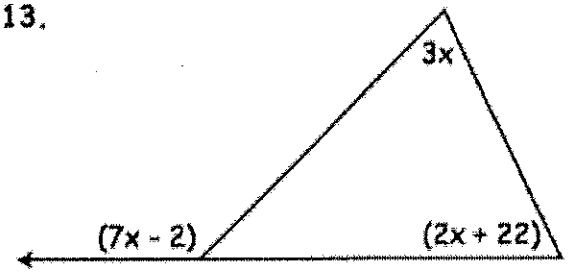
12.



103 - x + 2x = 6x - 7
103 + x = 6x - 7
-x -x
103 = 5x - 7
+7 +7
110/5 = 5x/5
x = 22

x = 22

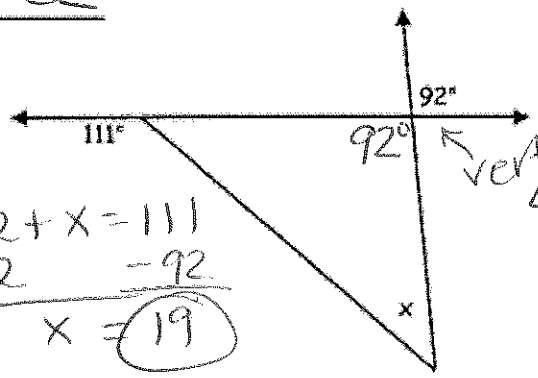
13.



3x + 2x + 22 = 7x - 2
5x + 22 = 7x - 2
-5x -5x
22 = 2x - 2
+2 +2
24/2 = 2x/2
x = 12

x = 12

14.



vertical ∠s

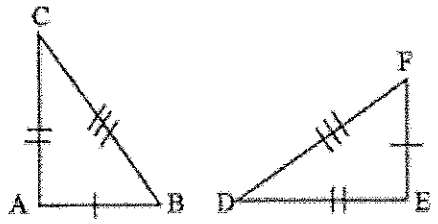
92 + x = 111
-92 -92
x = 19

x = 19

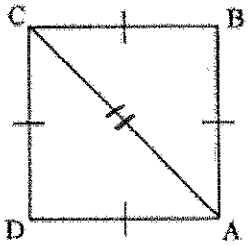
Triangle Congruence Worksheet #1

For each pair of triangles, tell which postulates, **if any**, make the triangles congruent.

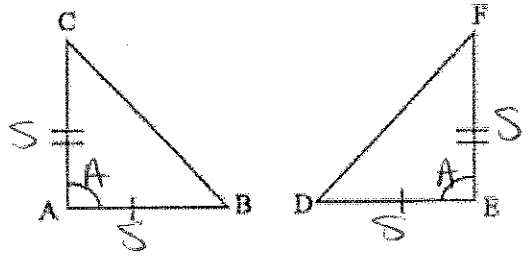
12. $\triangle ABC \cong \triangle EFD$ SSS cong.



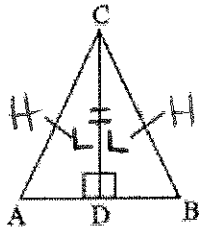
13. $\triangle ABC \cong \triangle CDA$ SSS cong



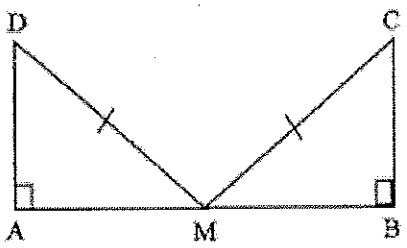
14. $\triangle ABC \cong \triangle EFD$ SAS cong



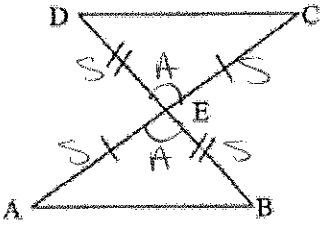
15. $\triangle ADC \cong \triangle BDC$ HL cong.



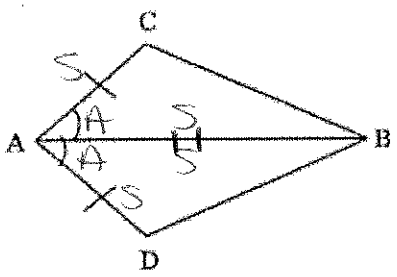
21. $\triangle MAD \cong \triangle MBC$ _____



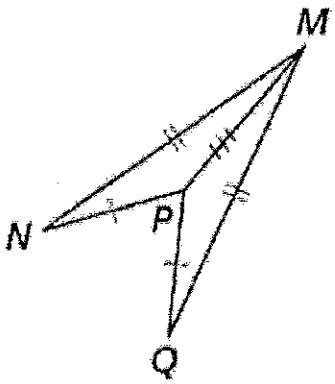
$\triangle ABE \cong \triangle CDE$ SAS cong



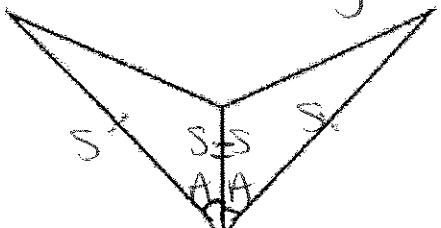
23. $\triangle ACB \cong \triangle ADB$ SAS cong



23. $\triangle MNP \cong \triangle MQP$ SSS cong.



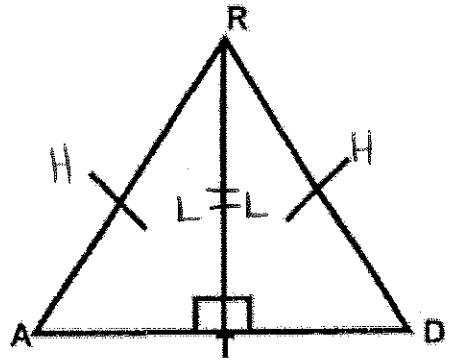
23. SAS cong.



Right Triangle Congruence

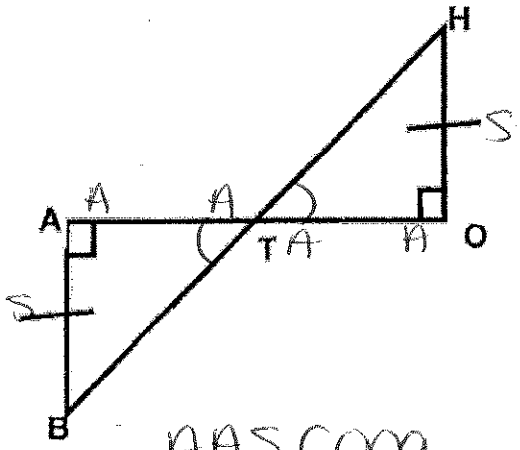
Is it possible to prove that the two triangles are congruent? If so, state the right triangle congruence theorem you would use to prove the two triangles are congruent and the congruence statement.

1.



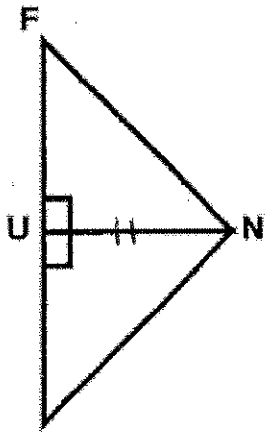
HL Cong.
$\triangle ATR \cong \triangle DTR$

2.



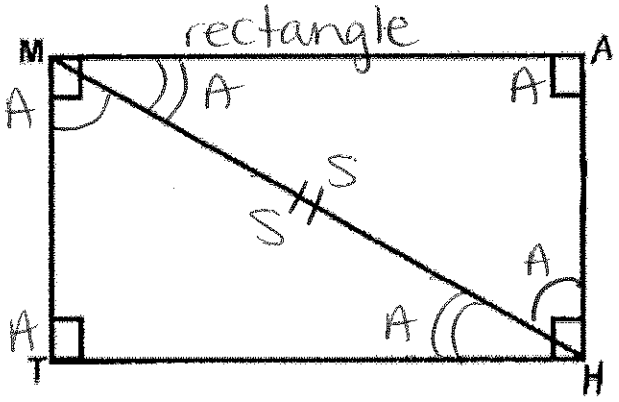
AAS Cong.
$\triangle BAT \cong \triangle HOT$

3.



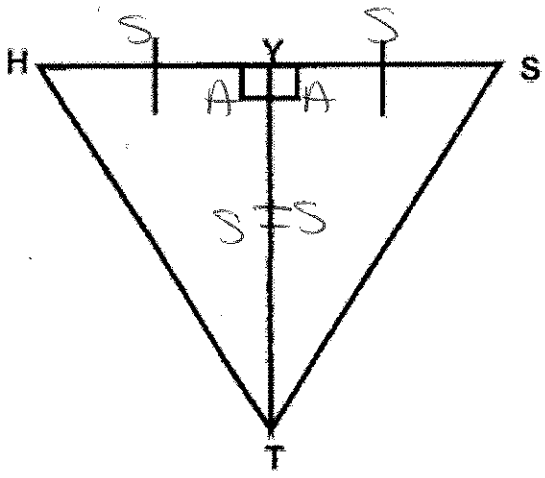
NOT congruent

4.



AAS cong or ASA cong
$\triangle MTH \cong \triangle HAM$

5.

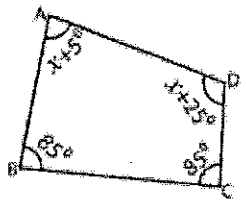


SAS Cong.
$\triangle HYT \cong \triangle SYT$

Name : _____ Score : _____

Angles in Quadrilateral

Example:



Sum of the interior angles = 360°

Sum of the interior angles = $85^\circ + x+25^\circ + x + 5^\circ + 85^\circ$

$360^\circ = 200^\circ + 2x$

$2x = 360^\circ - 200^\circ = 160^\circ$

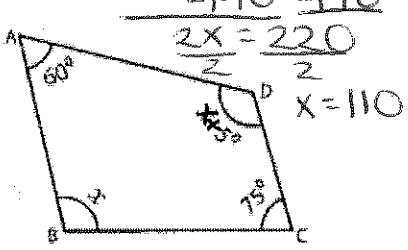
$x = \frac{160^\circ}{2} = 80^\circ$

$\angle A = x+5^\circ = 80^\circ + 5^\circ = 85^\circ$

$\angle D = x+25^\circ = 80^\circ + 25^\circ = 105^\circ$

Find the missing angles in each quadrilateral.

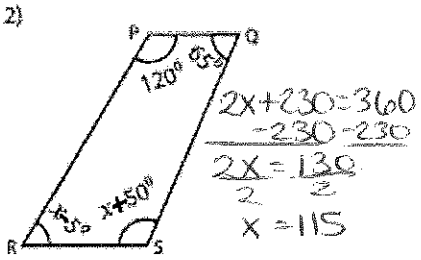
1)



$2x + 140 = 360$
$-140 \quad -140$
$\frac{2x}{2} = \frac{220}{2}$
$x = 110$

$x = 110^\circ; \angle B = 110^\circ; \angle D = 115^\circ$

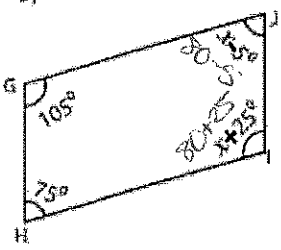
2)



$2x + 230 = 360$
$-230 \quad -230$
$\frac{2x}{2} = \frac{130}{2}$
$x = 115$

$x = 115; \angle R = 110^\circ; \angle S = 165^\circ$

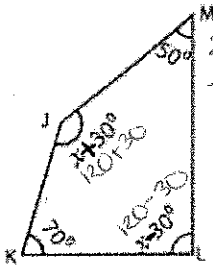
3)



$2x + 200 = 360$
$-200 \quad -200$
$\frac{2x}{2} = \frac{160}{2}$
$x = 80$

$x = 80; \angle J = 105^\circ; \angle H = 75^\circ$

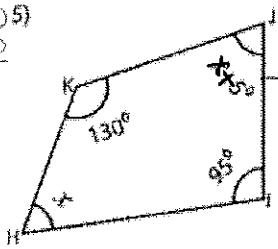
4)



$2x + 120 = 360$
$-120 \quad -120$
$\frac{2x}{2} = \frac{240}{2}$
$x = 120$

$x = 120; \angle J = 150^\circ; \angle L = 90^\circ$

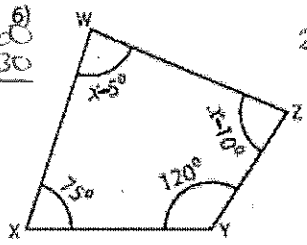
5)



$2x + 230 = 360$
$-230 \quad -230$
$\frac{2x}{2} = \frac{130}{2}$
$x = 65$

$x = 65; \angle H = 65^\circ; \angle I = 70^\circ$

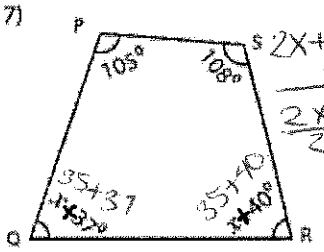
6)



$2x + 180 = 360$
$-180 \quad -180$
$\frac{2x}{2} = \frac{180}{2}$
$x = 90$

$x = 90; \angle W = 85^\circ; \angle Z = 80^\circ$

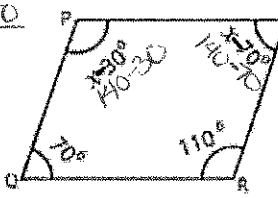
7)



$2x + 290 = 360$
$-290 \quad -290$
$\frac{2x}{2} = \frac{70}{2}$
$x = 35$

$x = 35; \angle Q = 72^\circ; \angle R = 75^\circ$

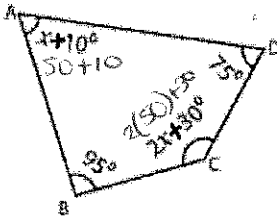
8)



$2x + 80 = 360$
$-80 \quad -80$
$\frac{2x}{2} = \frac{280}{2}$
$x = 140$

$x = 140; \angle P = 110^\circ; \angle S = 70^\circ$

9)



$3x + 210 = 360$
$-210 \quad -210$
$\frac{3x}{3} = \frac{150}{3}$
$x = 50$

$x = 50; \angle A = 60^\circ; \angle C = 130^\circ$

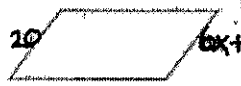
17

Name: _____ Date: _____

The Properties of a Parallelogram

- Opposite sides are parallel.
- Opposite sides are congruent.
- Consecutive angles are supplementary.
- Opposite angles are congruent.
- Diagonals bisect each other.

The figure is a parallelogram. Find the value of x.

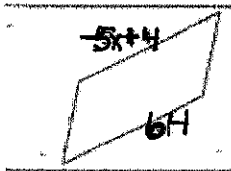


$20 = 6x + 8$
$-8 \quad -8$
$12 = 6x$
$x = 2$

The figure is a parallelogram. Find the value of x.

$44 = -4 + 8x$
$+4 \quad +4$
$48 = 8x$
$x = 6$

The figure is a parallelogram. Find the value of x.

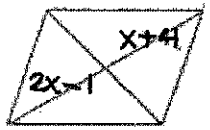


$-5x + 4 = 64$
$-4 \quad -4$
$-5x = 60$
$x = -12$

The figure is a parallelogram. Find the value of x.

$x + 96 = 180$
$-96 \quad -96$
$x = 84$

The figure is a parallelogram. Find the value of x.



$2x - 1 = x + 4$
$-x \quad -x$
$x - 1 = 4$
$+1 \quad +1$
$x = 5$

The figure is a parallelogram. Find the value of x.

$3x + 4x + 5 = 180$
$7x + 5 = 180$
$-5 \quad -5$
$7x = 175$
$x = 25$

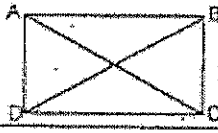
The figure is a parallelogram. Find the value of x.

$9x - 31 = 4x - 1$
$-4x \quad -4x$
$5x - 31 = -1$
$+31 \quad +31$
$5x = 30$
$x = 6$

The Properties of a Rectangle

- Opposite sides are parallel.
- Opposite sides are congruent.
- Consecutive angles are supplementary.
- Opposite angles are congruent.
- All four angles are congruent (90°).
- Diagonals bisect each other.
- Diagonals are cor

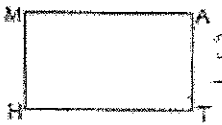
8. ABCD is a rectangle. AC = 33, DB = 5x – 12. Find the value of x.



AC = 33 DB = 5x – 12

$33 = 5x - 12$
$+12 \quad +12$
$45 = 5x$
$x = 9$

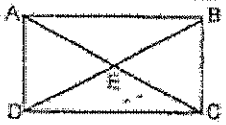
9. MATH is a rectangle. $m\angle H = (3x + 54)°$. Find the value of x.



$m\angle H = (3x + 54)°$

$3x + 54 = 90$
$-54 \quad -54$
$3x = 36$
$x = 11.6667$

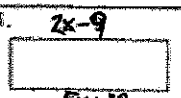
10. ABCD is a rectangle. DE = 5x – 16 & EC = 14 – 5x. Find the value



$DE = 5x - 16 \quad EC = 14 - 5x$

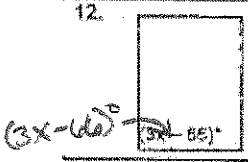
$5x - 16 = 14 - 5x$
$+5x + 16 \quad +16 + 5x$
$10x = 30$
$x = 3$

11. The figure is a rectangle. Find the value of x.



$2x - 9 = 5x + 12$
$-2x - 12 \quad -2x - 12$
$-21 = 3x$
$x = -7$

12. The figure is a rectangle. Find the value of x.



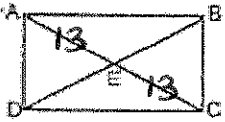
$3x - 66 = 90$
$+66 \quad +66$
$3x = 156$
$x = 52$

13. ABCD is a rectangle. DE = 28. Find the length of AC.

$DE = 28$

$28(2) = 56$

14. MATH is a rectangle. AC = 26 and EB = 2x – 5. Find the value of x.



$2x - 5 = 13$
$+5 \quad +5$
$2x = 18$
$x = 9$