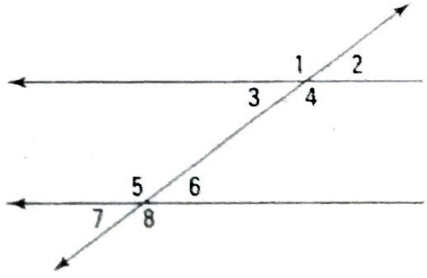
Math 2 – Honors
Unit 5 –Triangles & Similarity
Review for QUIZ

Name_____
Date_____Pd_____

➢ **Fill in the blank correctly.**

1. Supplementary angles always have a sum of 180°.
2. Vertical angles are always ≅.
3. Complementary angles always have a sum of 90°.
4. Linear pairs are always Supplementary, = 180°.
5. Angles that share a common side without overlapping are linear pairs.
6. Equiangular triangles must also be equilateral.
7. A triangle whose angles have measures less than 90° is acute.
8. A triangle whose sides have different measures for each is scalene.
9. Double the midsegment length to find the length of the third side of a triangle.
10. The exterior angle of a triangle is equal to sum of remote interior angles.

➢ **For problems 11 – 15 use the figure to the right.**

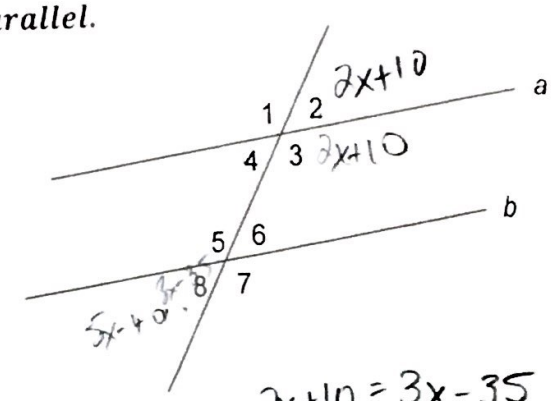


11. Name the alternate interior angle to ∠4. ∠5
12. Name the alternate exterior angle to ∠7. ∠2
13. Name the same side interior angle to ∠6. ∠4
14. Name the vertical angle to ∠2. ∠3
15. Name three angles that are supplementary to ∠3. ∠1, ∠4, ∠5

➢ **For problems 16 – 24, complete each statement with ALWAYS (A), SOMETIMES (S) or NEVER (N).**

16. An isosceles triangle Always has **exactly** two congruent sides.
17. If two parallel lines are cut by a transversal, corresponding angles are always congruent.
18. The vertex angle of an isosceles triangle is Never located between the base and a leg.
19. An obtuse triangle may Sometimes be scalene.
20. Equilateral triangles may Never be obtuse.
21. An obtuse triangle Never has two obtuse angles.
22. The hypotenuse of a right triangle is always the longest side.
23. It is Never possible for a triangle to be both right and equilateral.
24. An equilateral triangle is always equiangular.

➢ For problems 25 - 34, *line a and line b are parallel.*



25. $m\angle 2 = 60°$, $m\angle 6 =$ 60° corr.

26. $m\angle 4 = 75°$, $m\angle 6 =$ 75° AH. int.

27. $m\angle 5 = 100°$, $m\angle 3 =$ 100° AH. int.

28. $m\angle 8 = 50°$, $m\angle 7 =$ 130° linear pair

29. $m\angle 4 = 50°$, $m\angle 3 =$ 130° linear pair

30. $m\angle 3 = 60°$, $m\angle 6 =$ 120° consecutive

31. $m\angle 1 = 125°$, $m\angle 7 =$ 125° AH. Ext.

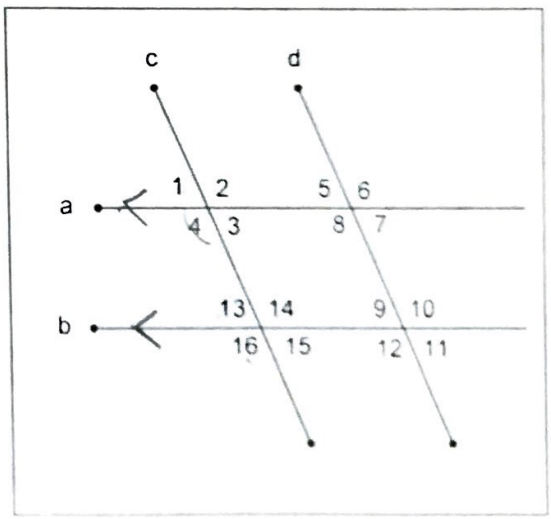
32. $m\angle 2 = 72°$, $m\angle 5 =$ 108° 180-72

33. $m\angle 3 = 2x + 10$, $m\angle 8 = 5x - 40$, $x =$ 30 $2x+10+5x-40=180$ $7x-30=180$ $7x=210$

34. $m\angle 2 = 2x + 10$, $m\angle 8 = 3x - 35$, $x =$ 45

$2x+10=3x-35$
$-2x \quad +35 \quad -2x \quad +35$
$45=x$

➢ **For problems 35 – 45, answer True or False if $a \parallel b$ and $c \parallel d$.**



35. Corresponding ∠s are ≅. True

36. ∠4 and ∠13 are corr. ∠s. False

37. ∠3 ≅ ∠7 True

38. ∠1 ≅ ∠15 True

39. ∠6 ≅ ∠7 False

40. ∠15 and ∠16 supp. True

41. ∠4 ≅ ∠9 False

42. ∠4 ≅ ∠14 True

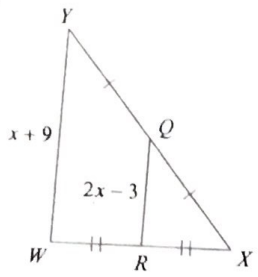
43. ∠14 ≅ ∠12 True

44. ∠1 and ∠11 are vertical angles. False

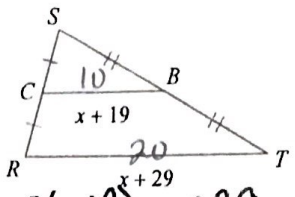
45. ∠11 ≅ ∠13 True

Solve for x.

9)



10)



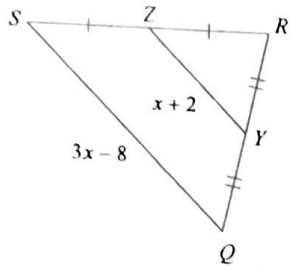
$2(x+19) = x+29$

$2x+38 = x+29$

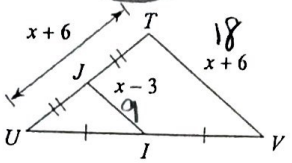
$-x \quad -38 \quad -x \quad -38$

$x = -9$

11)



12)



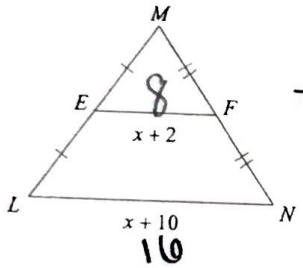
$2x-6 = x+6$

$-x \quad +6 \quad -x \quad +6$

$x = 12$

Find the missing length indicated.

13) Find LN



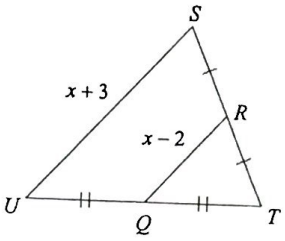
16

$2x+4 = x+10$

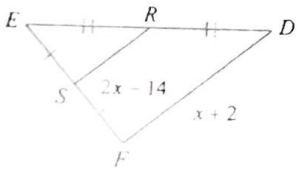
$-2 \quad -4 \quad -x \quad -4$

$x = 6$

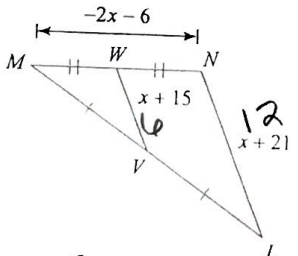
14) Find RQ



15) Find SR



16) Find VW



$2x+30 = x+21$

$-x \quad -30 \quad -x \quad -30$

$x = -9$

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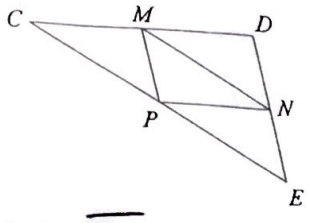
Math 2 – Honors
Unit 5 –Triangles & Similarity
Lesson 4 → Midsegment Theorem HOMEWORK

Name_____
Date_____ Pd_____

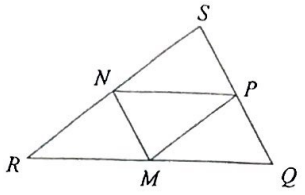
In each triangle, M, N, and P are the midpoints of the sides. Name a segment parallel to the one given.

1)



$\overline{CD} \parallel \overline{PN}$

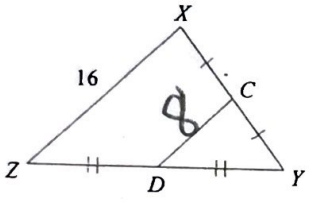
2)



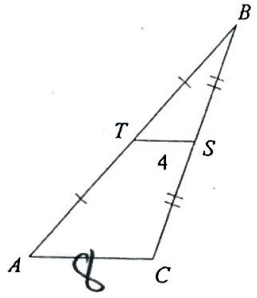
$\_\_ \parallel \overline{QS}$

Find the missing length indicated.

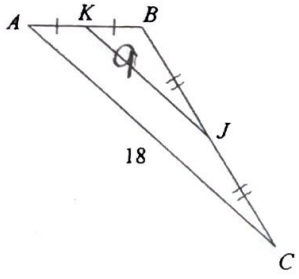
3) Find *CD*



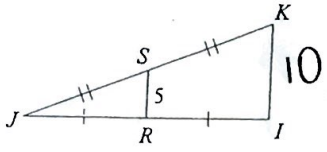
4) Find *AC*



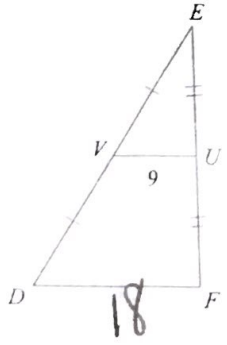
5) Find *KJ*



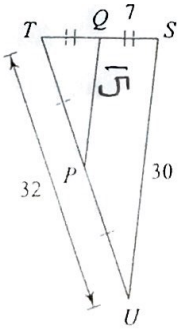
6) Find *IK*



7) Find *DF*



8) Find *PQ*



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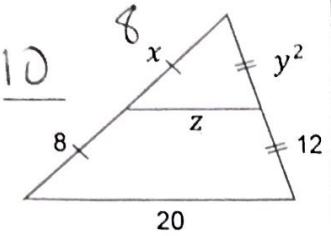
Classwork:

Find the values of the variables. Figures are not drawn to scale.

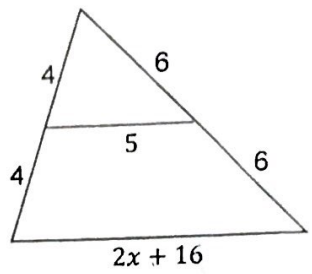
1. $x =$ 8 $y =$ $\sqrt{12}$ $z =$ 10

$y^2 = 12$

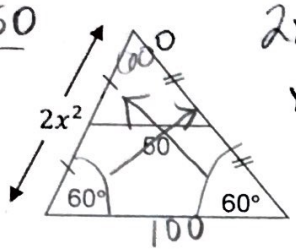
$y = \pm\sqrt{12}$



2. $x =$ ____



3. $x =$ $\sqrt{50}$

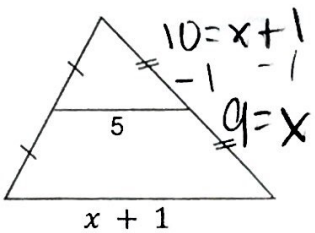


$2x^2 = 100$

$x^2 = 50$

$x = \sqrt{50}$

4. $x =$ 9

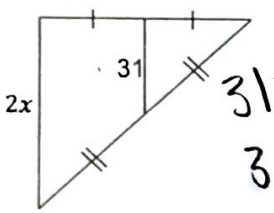


$10 = x + 1$

$-1 \quad -1$

$9 = x$

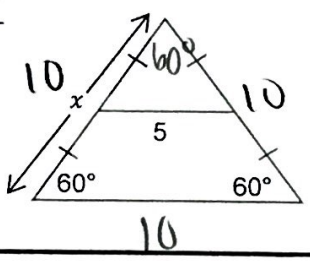
5. $x =$ 31



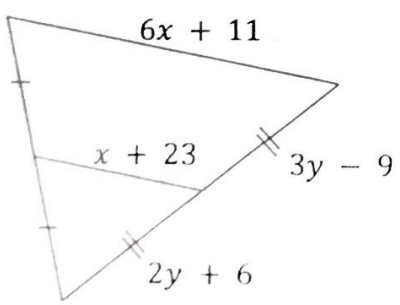
$31 = \frac{1}{2}(2x)$

$31 = x$

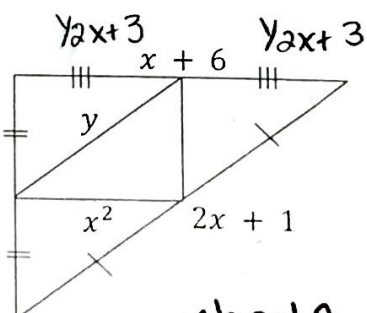
6. $x =$ 10



7. $x =$ ____ $y =$ ____



8. $x =$ 2 $y =$ 2.5

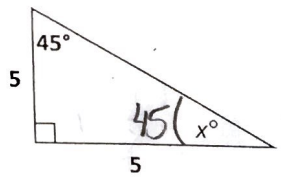


on website

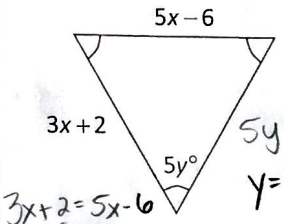
Math 2 – **Honors**
Unit 5 - **Triangles & Similarity**
Lesson 3 → Triangle Theorems HOMEWORK

Name_____
Date_____ Pd_____

1) Find the value of x:



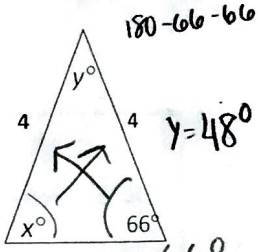
2) Find the values of x *and* y:



5y = 60
y = 12
3x + 2 = 5x − 6
−3x −3x
x = 4

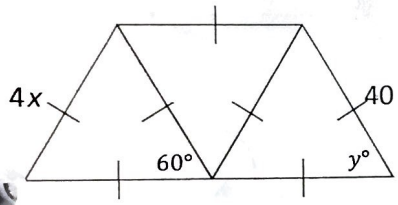
3) Find the values of x *and* y:

180 − 66 − 66



y = 48°
x = 66°

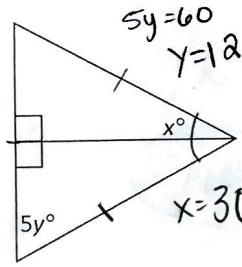
4) Find the values of x *and* y:



y = 60° x = 10

5) Find the values of x *and* y:

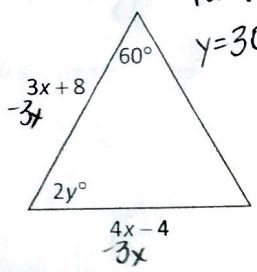
Equilateral Triangle



5y = 60
y = 12
x = 30°

6) Find the values of x *and* y:

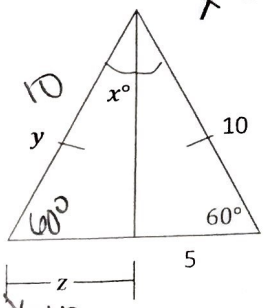
Equilateral Triangle



12 = x
y = 30

7) Find x, y *and* z:

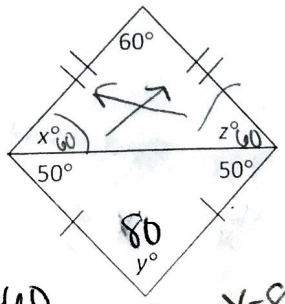
x =



y = 10
z = 5 x = 30

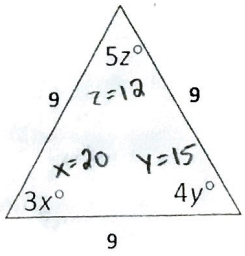
8) Find x, y *and* z:

120/2

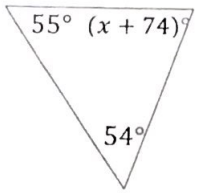


x = 60 z = 60 y = 80

9) Find x, y *and* z:

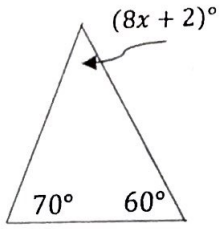


Solve for x:

10) 

55 + 54 + x + 74 = 180

x = -3

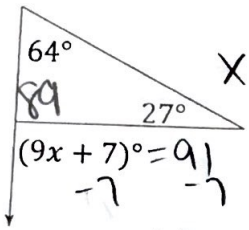
11) 

8x + 2 + 70 + 60

8x + 132

8x = 48

x = 6

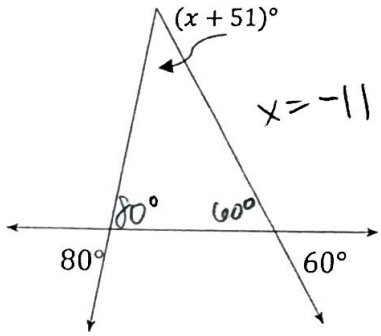
12) 

(9x + 7)° = 91

-7 -7

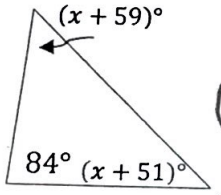
9x = 84

x = 28/3

13) 

x = -11

Solve for x and then find the measure of $\angle A$.

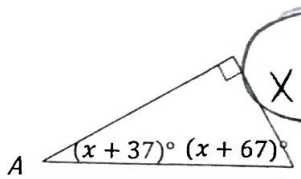
14) 

84 + x + 51 + x + 59

2x = -14

x = -7

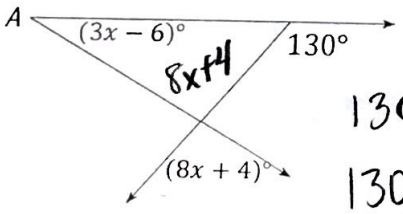
∠A = 44°

15) 

x = 30°

2x = -14

x = -7

16) 

130 = 3x - 6 + 8x + 4

130 = 11x - 2

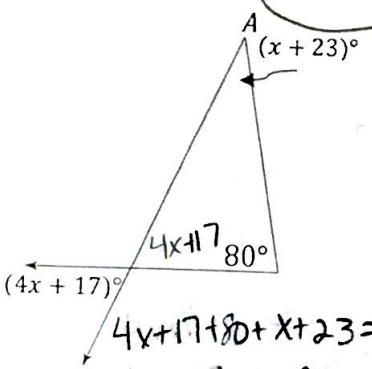
+2 +2

132 = 11x

12 = x

3(12) - 6

∠A = 30°

17) 

∠A = 35°

4x + 17 + 80 + x + 23 = 180

5x + 120 = 180

5x = 60

5 5

x = 1215