Study Guide

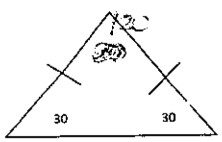
Unit 12 Review for Assessment

Define the following words: Define

- supplementary angles
- complementary angles
- vertical angles
- adjacent angles
- acute triangle
- obtuse triangle
- right triangle
- isosceles triangle
- scalene triangle
- equilateral triangle
- parallel lines
- transversal
- congruent angles
- corresponding angles
- alternate interior angles
- alternate exterior angles
- triangle sum theorem
- exterior angle theorem

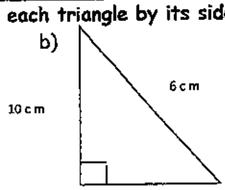
Name each triangle by its sides and lengths

a)



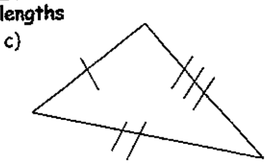
isosceles, obtuse

b)



scalene, right

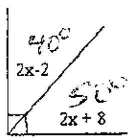
c)



scalene, right

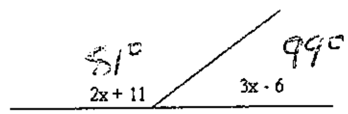
For # 1-10, find the measure of the missing angle

1)



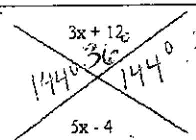
2x-2+2x+8=90
4x+6=90
4x=84
x=21

2)



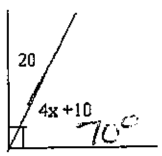
2x+11+3x-6=180
5x+5=180
5x=175 x=35

3)



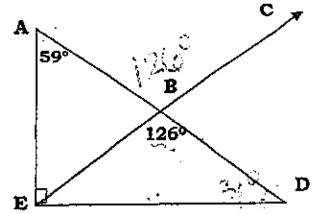
3x+12=5x-4
3x=5x-16
-2x=-16
x=8

4)

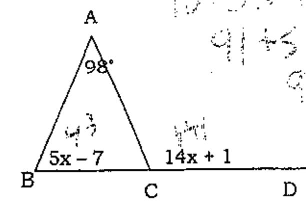


20+4x+10=90
30+4x=90
4x=60
x=15

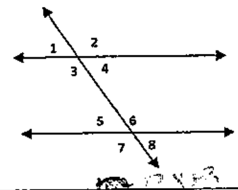
5) Use the diagram to find the missing angle measures B and D.



6)



Use the following figure to answer questions 7-9.



7) If the m∠1 is ___ and m∠4 is ___ find x and the measure of both angles.

x=6
45°

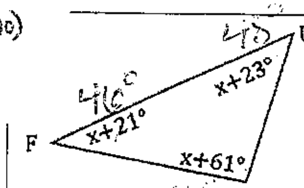
8) If the m∠3 is ___ and m∠5 is ___ find x and the measure of both angles.

x=13
m∠3=154°
m∠5=21°

9) If the m∠2 is ___ and m∠7 is ___ find x and the measure of both angles.

x = 14/4 = 3½

10)



3x + 105 = 180
3x = 75
x = 25

8x = x + 42
7x=42
x=6

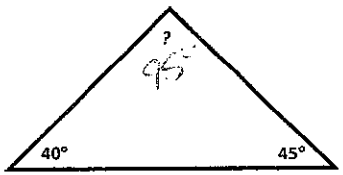
10+x = 5x − 4
10 = 4x − 4
14 = 4x
14/4 = x

12x − 3 + 2x − 5 = 180
14x − 2 = 180
14x = 182
x = 13

Name:_____

Find each missing angle measure. Date:_____ Period:____

1.



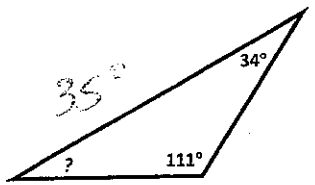
2. In a triangle the measure of two of the angles is 35° and 65°. Find the measure of the third angle.

80°

3. In triangle *DEF* the measure of angle *D* is 33° and the measure of angle *E* is 97°. Find the measure of angle *F*.

50°

4.



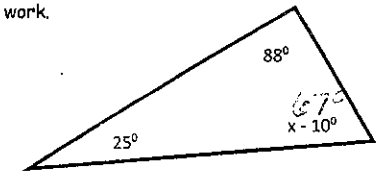
5. Triangle *ABC* is a right triangle. The measure of angle *A* is 37°. Find the measures of angle *B* and *C*.

90°
53°

6. Four isosceles triangles cap the Smith Tower in Seattle. If one of the base angles measures 65°, what are the measures of the other two angles?

65° don't add to 180°.
50°

7. Find the missing angle measure without using a protractor. Triangle is not drawn to scale. Set up an equation and show your work.

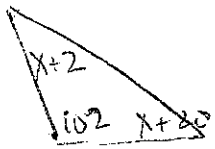


55 + 25 + x - 10 = 180
103 + x = 180
x = 77

8. Draw a triangle and give it the following measures then list the measure of all three angles. $m\angle 1 = 102^\circ$, $m\angle 2 = x + 2$, and $m\angle 3 = x + 20$.

$m\angle 1 =$ 102
$m\angle 2 =$ 30
$m\angle 3 =$ 48

102 + x + 2 + x + 20 = 180
2x + 124 = 180
2x = 56
x = 28



9. Can you draw a right triangle that is also an isosceles triangle? Explain.

yes

10. Can a triangle have more than one obtuse angle? Explain.

no

Tell if the following combinations are lengths that could create a triangle.

11. 3, 5, 9 — no

12. 8, 8, 8 — yes

13. 7, 8, 2 — yes

How did you determine the answers to #11-13?

3 + 5 > 9 no
3 + 9 > 5
5 + 9 > 3

8 + 8 > 8
8 + 8 > 8
8 + 8 > 8

yes

7 + 8 > 2
7 + 2 > 8
2 + 8 ? 7

14. In congruent triangles, what is true about corresponding sides?

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15. In congruent triangles, what is true about corresponding angles?

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