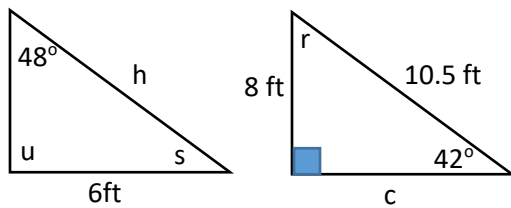Quarterly Assessment 2 STUDY GUIDE

Name: _____ Date: _____ Per: _____

1. The two triangle shaped rooms are congruent. Find the missing side lengths and angle measures.

   a. c = 8 ft r = 48° u = 90° s = 42° h = 10.5 ft   b. c = 6 ft r = 48° u = 90° s = 42° h = 6 ft
   c. c = 6 ft r = 48° u = 90° s = 42° h = 10.5 ft   d. c = 6 ft r = 48° u = 42° s = 90° h = 6 ft

2. A bird makes a nest on the top of a lamppost. Joshua stands 15 feet from the lamp post to look at the birds nest. The angle of elevation from Joshua to the nest is 35°. Find the height of the lamppost (Round to the nearest tenth).
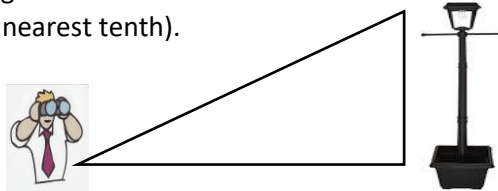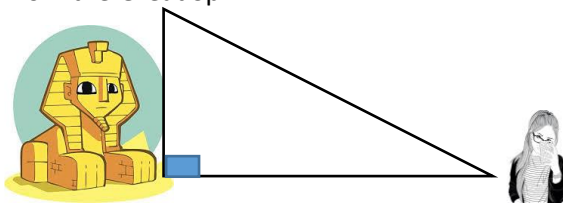
3. If the value of cos 64° = .39, then sin x = .39. What is the value of x?

4. A right triangle (shown blow) has a hypotenuse that is 10 inches in length and a leg that is 7 inches in length. Find the measure of **angle B** (Round to the nearest tenth).
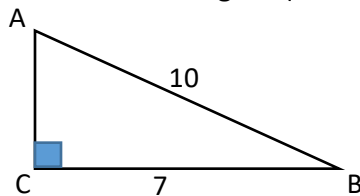
5. Hope is in Giza Egypt looking at the top of the Great Sphinx with a 72° of elevation. She is 85.3 meters from the Great Sphinx.
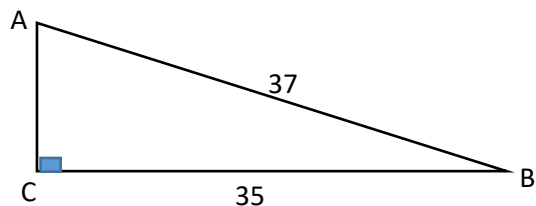
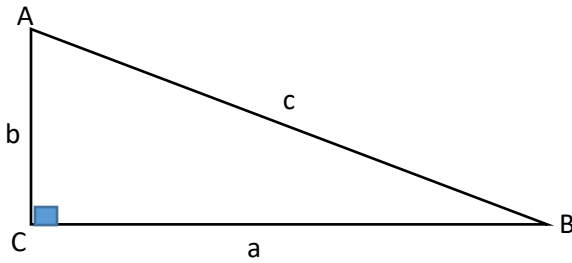   How tall is the Great Sphinx statue (Round to the nearest tenth)?

6. A right tringle has a hypotenuse with a length of 37 inches and a leg with a length of 35 inches.

   What is Cos B?

   $a. \dfrac{37}{35}$ $b. \dfrac{35}{37}$ $c. \dfrac{37}{12}$ $d. \dfrac{12}{37}$
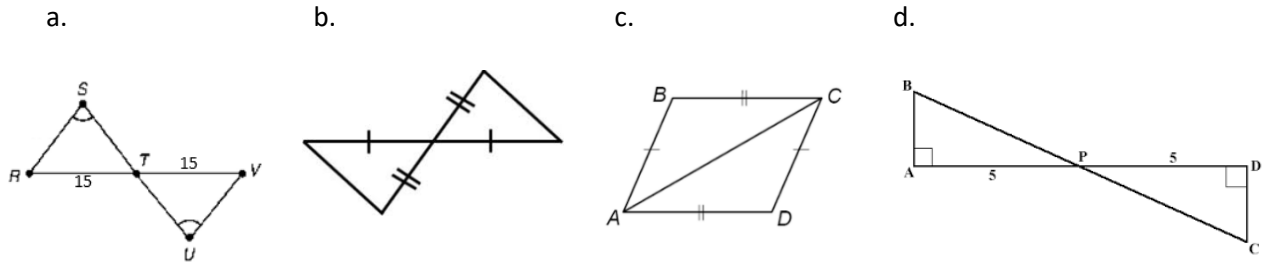
7. Using the triangle, label the statements true or false.

a. Sin A = Sin B _____
b. Sin A = Cos B _____
c. Cos A = Sin B _____
d. Cos A = Cos B _____
e. Tan A = Tan B _____
f. Tan A = Tan C _____

8. In the following diagram, m< B = 36° and BC = 12 ft. Which equation can be used to find the value of x?

a. x = 12sin 36°
b. x = 12cos 36°
c. x = 12tan 36°
d. x = $\dfrac{12}{tan 36^o}$

9. <u>MATCHING:</u> What congruence theorem can be used to determine that the two triangle are congruent?

a.

b.

c.

d.

i. AAS Congruence Thm   ii. SSS Congruence Thm

iii. SAS Congurence Thm   iv. ASA Congruence Thm

10. <u>MATCHING:</u> What similarity postulate can be used to determine that the two trigangles are similar?

a.

b.

c.
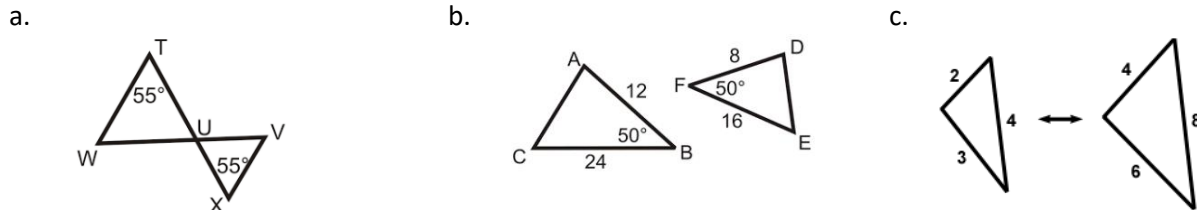
i.   SAS Similarity   ii. SSS Similarity
iii.   AA Similarity   iv. Not Similar

11. Use the image below for the following
    a. Circle the image that represents the theorem, opposite sides of a parallelogram are congruent.
    b. Put a rectangle around the image that represent the theorem, consecutive angles of a parallelogram are supplementary
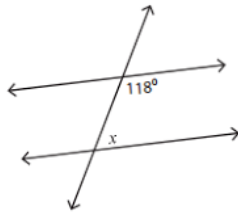   c. Shade in the image that represent the theorem, opposite angles of a parallelogram are congruent.
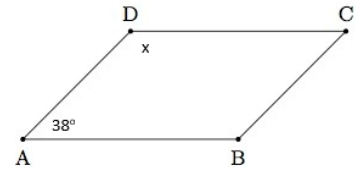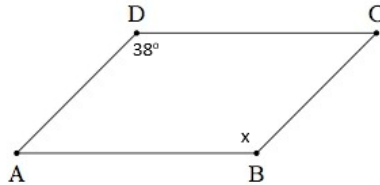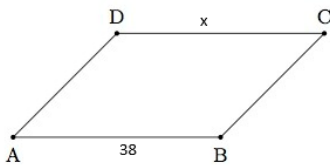
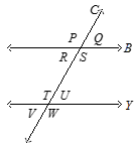12. In the diagram below $\Delta MCJ \cong \Delta NYE$. Mark the statements True or False.
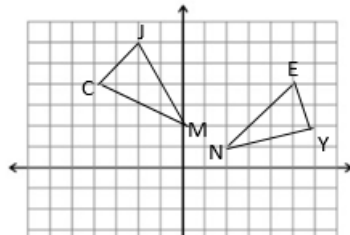
    a. $< M \cong < Y$ ____
    b. $< M \cong < N$ ____
    c. $< C \cong < Y$ ____
    d. $JM \cong EN$ ____

13. Using the diagram below, find the value of x.

14. Use the image and the proof table to organize the following reasons next to the correct statement.
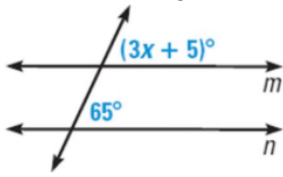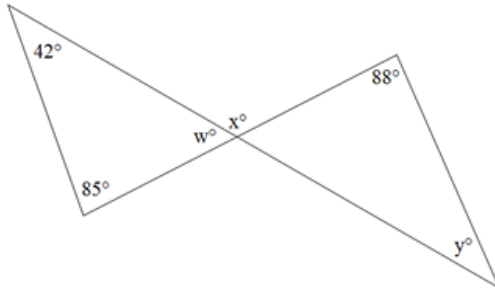
    Given that <R and <W are supplementary, prove B||Y

Statement	Reason
<W and < R are supplementary	1.
$< W \cong < T$	2.
$< T \ and < R$ are supplementary	3.
B // Y	4.

    a. Given
    b. Substitution

    c. Vertical Angles
    d. Same-Side Interior Angles Converse

15. Find x in the diagram below:

$(3x + 5)°$

m

$65°$

n

16. Find w, x, and y.

$42°$

$88°$

$w°$ $x°$

$85°$

$y°$

17. The following triangles are similar. Find the value of x.

F

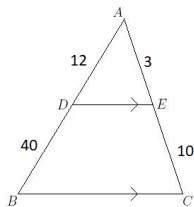5   4

M   2

L   N

$3x+2$

E   G

7
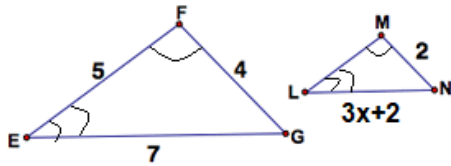
18. Define perpendicular lines:
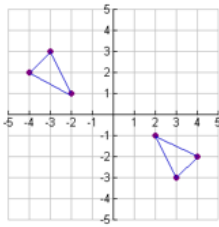
19. Write a general rule for the transformation below (using coordinate notation):
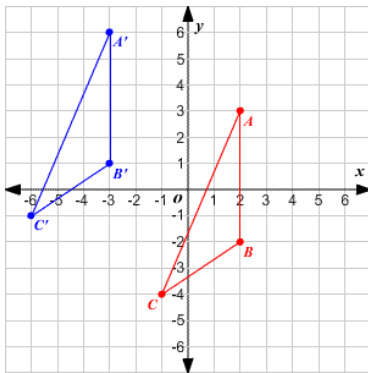
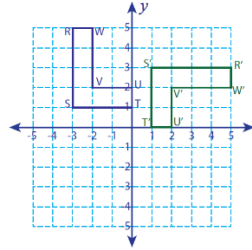20. Are the following triangles similar? If so, how?

A

12   3

D   E

40   10

B   C

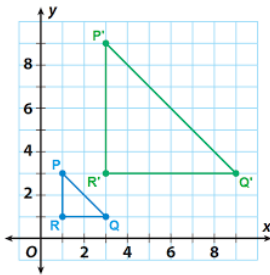21. What type of transformation is pictured below?

22. 90 clockwise
    90 counterclockwise
    180 clockwise
    180 counterclockwise
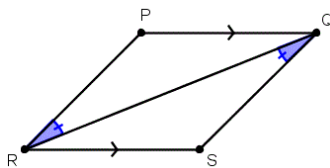   270 clockwise
    270 counterclockwise

Which **pair** of rotations (listed above) are pictured above?

23. What is the scale factor of dilation for the following transformation?
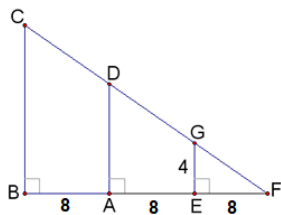

24. Fill in the reasons for each of the following statements in the proof below:

Given : $\overline{PQ} \parallel \overline{RS}$
$\angle PRQ \cong \angle SQR$
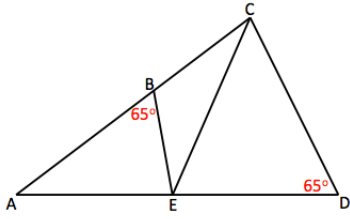Prove : $\triangle PQR \cong \triangle SRQ$

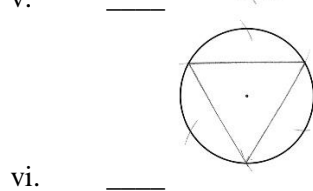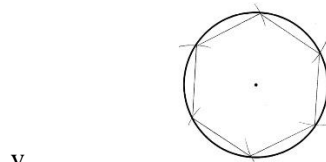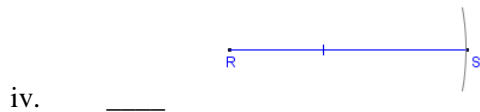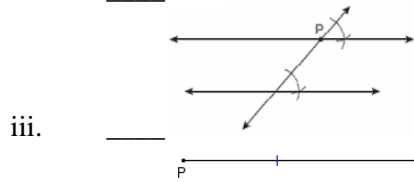| Statements	Reasons
1. $\overline{PQ} \parallel \overline{RS}$	1.
2. $\angle PRQ \cong \angle SQR$	2.
3. $\angle PQR \cong \angle SRQ$	3.
4. $\overline{RQ} \cong \overline{RQ}$	4.
5. $\triangle PQR \cong \triangle SRQ$	5.

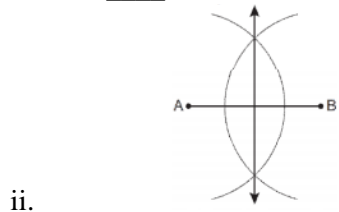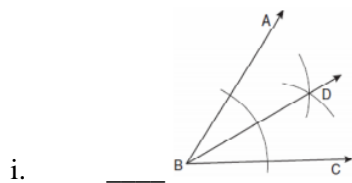25. Find the length of BC.

26. Name the pair of similar triangles in the following figure:

How do you know they are similar?

27. Match each of the following constructions to what is being constructed:

a. Parallel line through a given point

i. _____

b. Hexagon inscribed in a circle

ii. _____

c. Perpendicular bisector of a segment

iii. _____

d. Copy of a line segment

iv. _____

e. Equilateral triangle inscribed in a circle

v. _____

f. Angle bisector

vi. _____