NOTES

Are these similar?

Angle Angle Postulate		
Postulate	**If…**	**Then…**
If two angles of one triangle are congruent to two angles of another triangle,	$\angle C \cong \angle D$ and $\angle A \cong \angle O$	

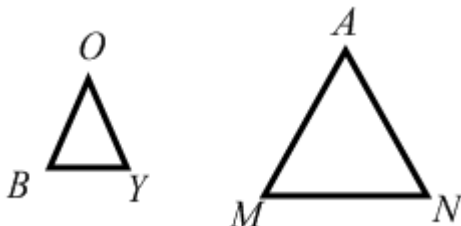| Side Angle Side Theorem		
Postulate	**If…**	**Then…**
If an angle of one triangle is congruent to an angle of a second triangle, and the sides that include the two angles are proportional, then	$\dfrac{BO}{MA} = \underline{\qquad}$ and $\angle O \cong \angle A$	

Example:

Side Side Side Postulate

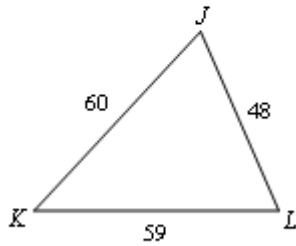| Postulate	If…	Then…
If the corresponding sides of two triangles are proportional,	$\dfrac{EA}{LO} = \dfrac{AR}{OB} = \underline{\quad}$	

Example:
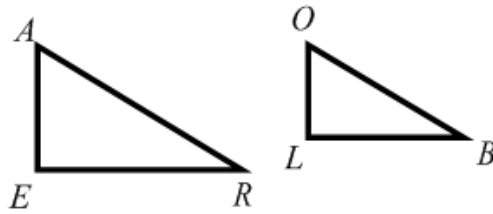
Determine if the following triangles are similar. If so, state the reason why.
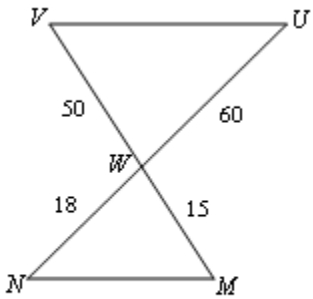
$\Delta WVU \sim$ _____
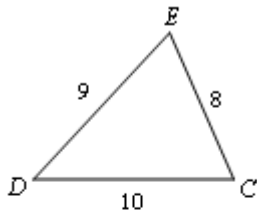
$\Delta LKJ \sim$ _____
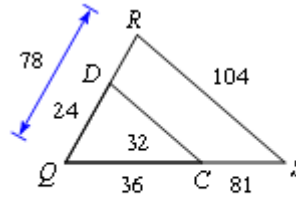
$\Delta QRS \sim$ _____
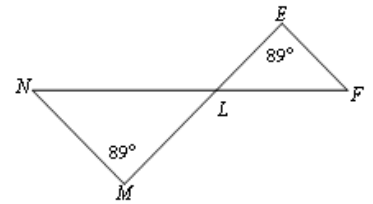
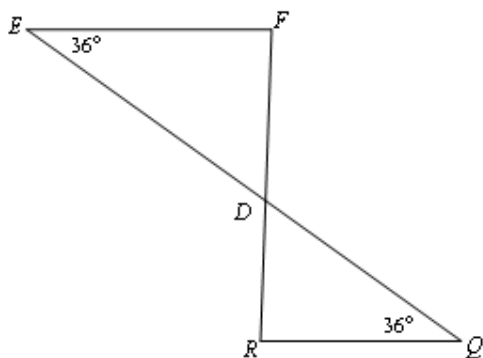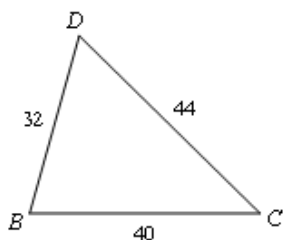$\Delta LMN \sim$ _____

Summarize your notes!

6.2 PRACTICE

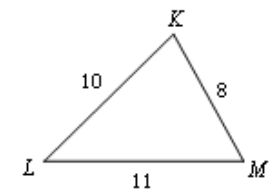**State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.**
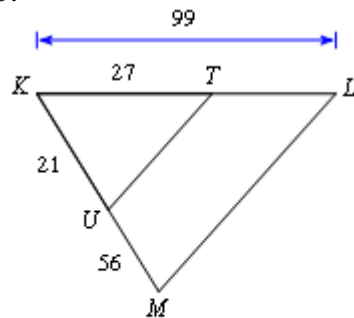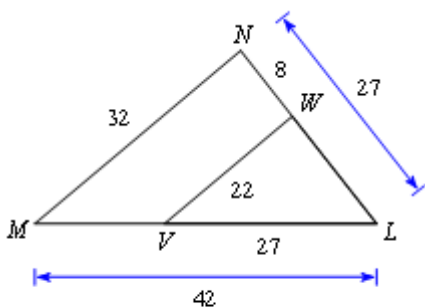
1.

E
36°
F

D

R
36°
Q

$\Delta DEF \sim$ _____

2.

K
10
8
L
11
M

D
32
44
B
40
C

$\Delta DCB \sim$ _____

3.

99
K
27
T
L
21
U
56
M

$\Delta KLM \sim$ _____

4.

N
8
27
W
32
22
M
V
27
L
42

$\Delta LMN \sim$ _____

5.

D
18
30
12
V
U
8
F
E

$\Delta DEF \sim$ _____

6.

E
F
U
T
S

$\Delta UTS \sim$ _____

7.

P
54
Q
45
27
R
G
12
H
24
20
F

$\Delta PQR \sim$ _____

8.

M
12
E
16
F
L
12
17
D

$\Delta FED \sim$ _____

9.

C
Q
12
6
B
R
6
D
12

$\Delta BCD \sim$ _____
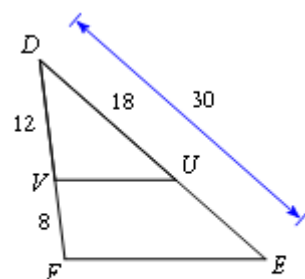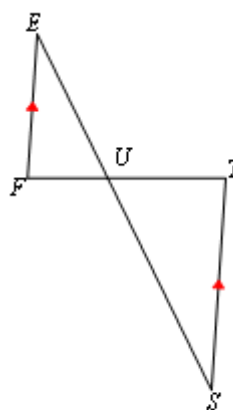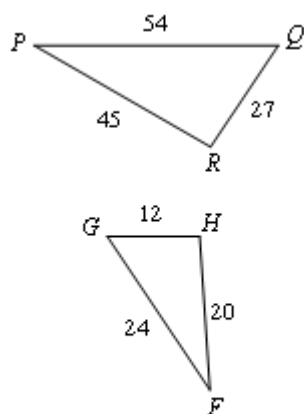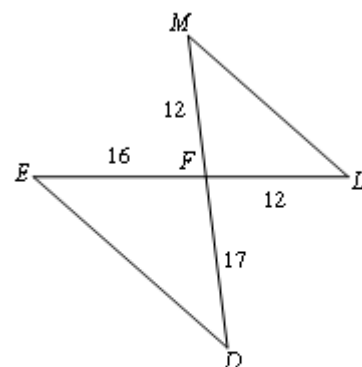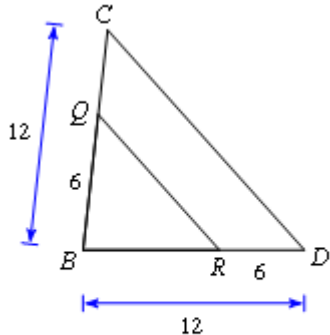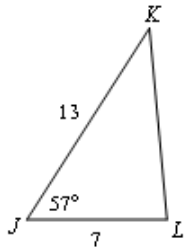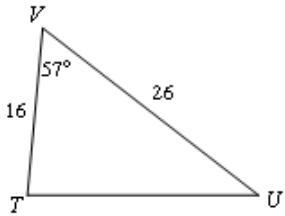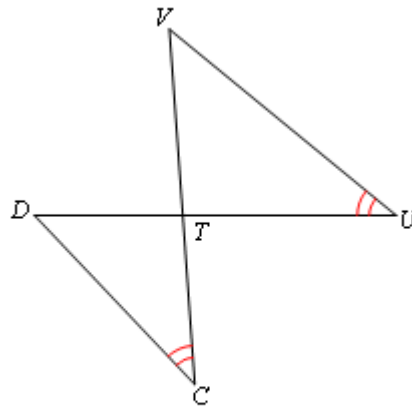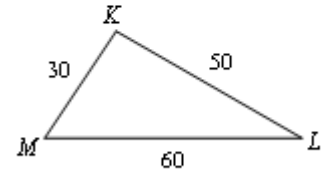
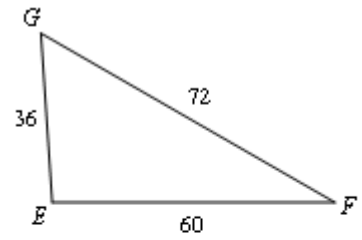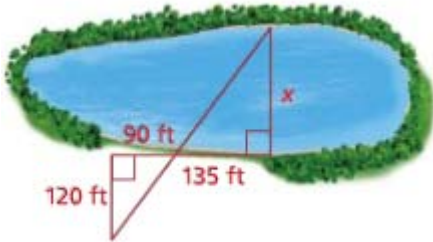| 10.	11.	12.
$\triangle VUT \sim$ _____	$\triangle TUV \sim$ _____	$\triangle EFG \sim$ _____

Explain why the triangles are similar. Then find x.

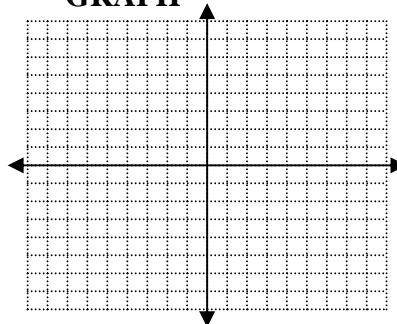| 13.	14.
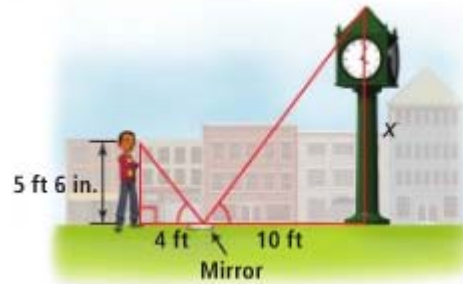
ALGEBRA REVIEW

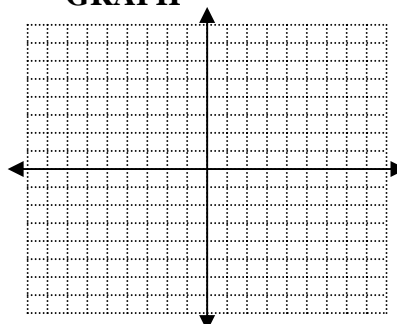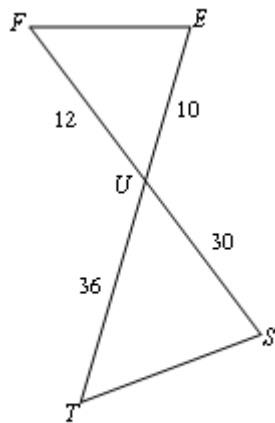| SOLVE Simplify your solution $3x^2 = 54$	GRAPH $y = -\dfrac{x}{4} - 2$	MULTIPLY $(x - 5)(x + 5)$
SOLVE Simplify your solution $x^2 - 7 = 21$	GRAPH $y = 2 + x$	FACTOR $x^2 + 14x + 45$

6.2 APPLICATION

State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

1.

12, 10, 36, 30

$\triangle UTS \sim$ _____

2.

72, 132, 59, 60

$\triangle UTS \sim$ _____

Watch the application walk through video if you need extra help getting started!
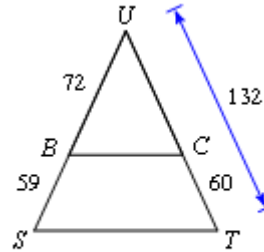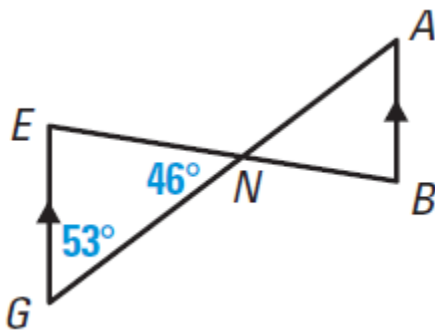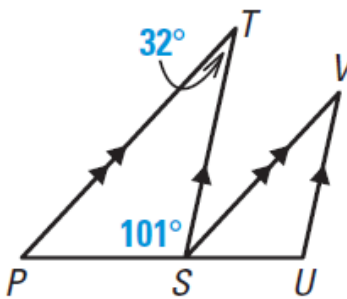
Fill in the missing angles and then state if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.
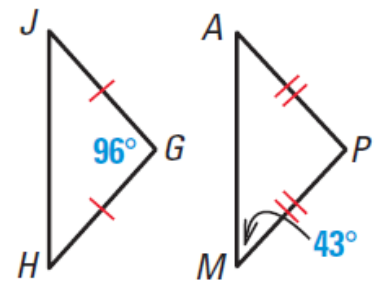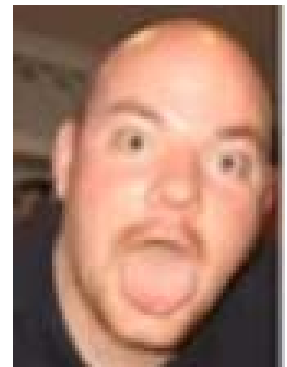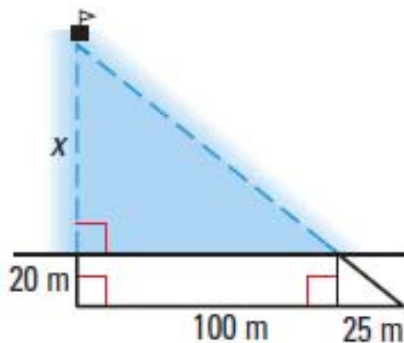
3.

46°, 53°

4.

32°, 101°

5.

96°, 43°

6. Mr. Sullivan is lost at sea and freaking out in his little sailboat. He will swim for the shore if he is 70 meters or less. Find x and decide if Sully should swim for it (his life depends on it).
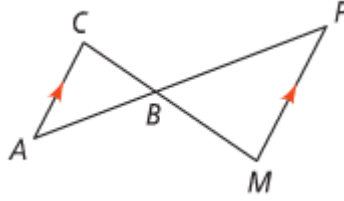

20 m, 100 m, 25 m

THESE ARE JUST LIKE UNIT 4 TRIANGLE CONGRUENCE PROOFS!!!

$$AA\sim, SAS\sim, SSS\sim$$

7. Fill in the blanks

Given: $\overline{MP} \parallel \overline{AC}$

Prove: $\triangle ABC \sim \triangle PBM$

STATEMENTS	REASONS
1. $\overline{MP} \parallel \overline{AC}$	1.
2. $\angle C \cong \angle M$	2.
3. $\angle CBA \cong \angle MBP$	3.
4. $\triangle ABC \sim \triangle PBM$	4.

8. **COORDINATE GEOMETRY**

   a. Plot the following points to make a triangle.

   P (-4,1)
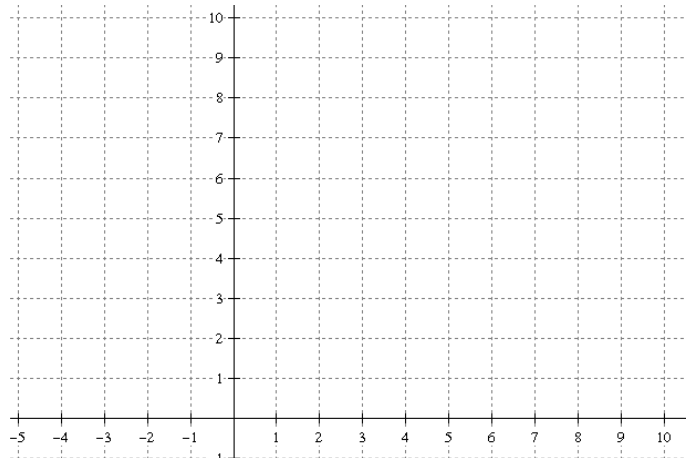   C (-4,3)
   S (-1,1)

   b. Plot the following points to make a triangle.

   R (1, 3)
   A (1, 9)
   T (10, 3)

   c. Use $SAS\sim$ to prove $\triangle \boldsymbol{PCS}\sim\triangle \boldsymbol{RAT}$

   (Feel free to use a 2-column proof, flow chart, paragraph proof, or just freestyle it)