Chapter 4 Test Review Packet Name: Answer Key

True or false (5 questions).

1.) The capital letters CPCTC are an abbreviation for the phrase, "congruent parts of congruent triangles are corresponding congruent." False

2.) In an isosceles triangle, the perpendicular bisector of the base is also the same segment as the angles bisector of the vertex angle. True

3.) The base angles of an isosceles triangle are always acute. True

4.) An exterior angle of a triangle is greater than each of the interior angles. True

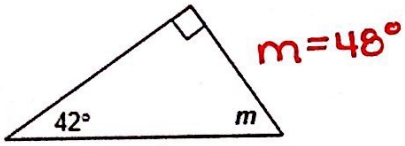
5.) The sum of the measures of the three angles of an obtuse triangle is greater than the sum of the measures of the three angles of an acute triangle. False

6.) It is possible for an obtuse triangle to have three congruent sides. False

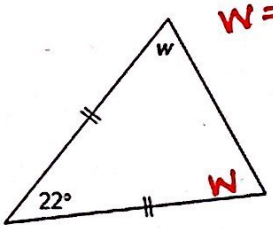
7.) A triangle with all the sides equal in measure must be an acute triangle. True

8.) If a triangle has two angles of equal measure, then the third angles is obtuse. False

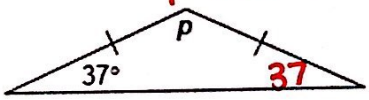
Find the missing value in each triangle (4 questions).



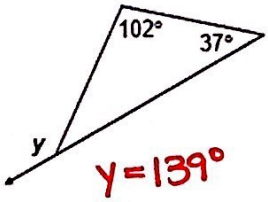
m=48°



w=79°



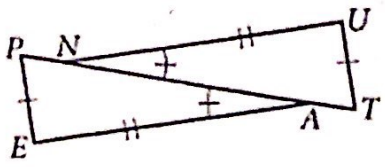
p=106°



y=139°

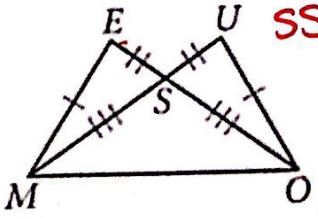
If possible, name the congruent triangles. State the conjecture that supports the congruence statement. If you cannot show the triangles to be congruent from the information given, write "cannot be determined." (6 questions)

$\triangle PEA \cong \triangle$?



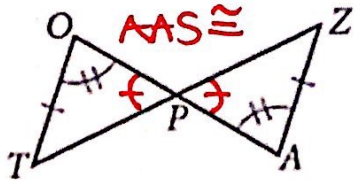
cannot be determined.

$\triangle MSE \cong \triangle$? OSU



SSS ≅

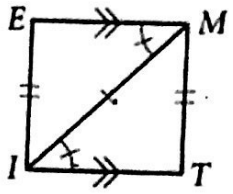
$\triangle TOP \cong \triangle$ ZAP



AAS ≅

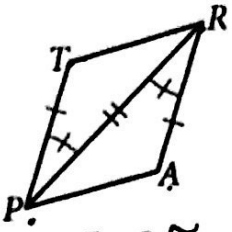
Chapter 4 Test Review Packet Name: _____

. $\triangle TIM \cong \triangle$? EMI



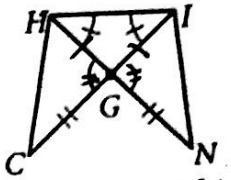
cannot be determined

$\triangle TRP \cong \triangle$? APR



SAS ≅

$\triangle CGH \cong \triangle$? NGI



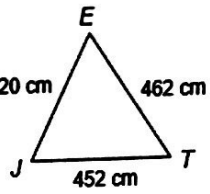
SAS ≅

Answer the questions below (The figures below are not drawn to scale.) (2 questions)

Consider $\triangle JET$ at the right.

a. Name the largest angle. ∠J

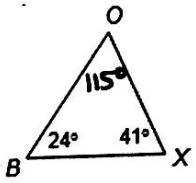
b. Name the smallest angle. ∠T



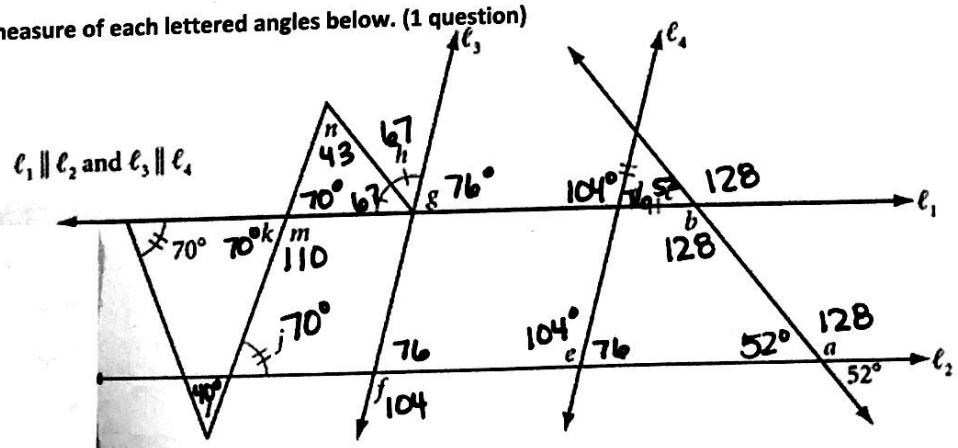
Consider $\triangle BOX$ at the right.

a. Name the shortest side. $\overline{OX}$

b. Name the longest side. $\overline{BX}$



Find the measure of each lettered angles below. (1 question)



a = 128°
b = 128°
c = 52°
d = 76°
e = 104°
f = 104°
g = 76°
h = 52°
j = 70°

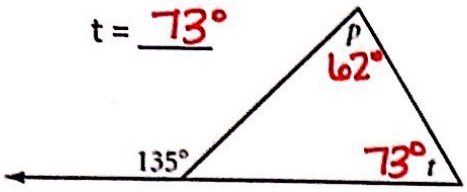
k = 70°
l = 70°
m = 110°
n = 58°

Chapter 4 Test Review Packet Name: _____

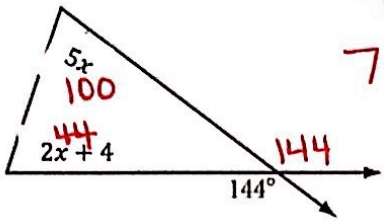
Find the missing measures below (1 question).

p = 62°

t = 73°



$5x+2x+4 = 144$
$-4 \quad -4$
$7x = 140$
$x = 20$



Answer the questions below (2 questions).

Is it possible to draw a triangle with sides of 5 ft, 6 ft, and 12 ft? Explain how you know and be sure to show your work. No, $5+6>12$ doesn't work

Is it possible to draw a triangle with sides of 3.5 cm, 4.5 cm, and 7 cm? Explain how you know and be sure to show your work.

$3.5+4.5>7$ ☺
$4.5+7>3.5$ ☺
$3.5+7>4.5$ ☺

Yes, each sum is greater than the third side.

If 54 and 48 are the lengths of two sides of a triangle, what is the range of possible values for the length of the third side?

$54+48>x$ → $x<102$

~~$54+x>48$~~

$48+x>54$
$-48 \quad -48$

$x>6$

$6<x<102$

If 14 and 22 are the lengths of two sides of a triangle, what is the range of possible values for the length of the third side?

$14+22>x$ → $x<36$

$14+x>22$ → $x>8$

~~$22+x>14$~~

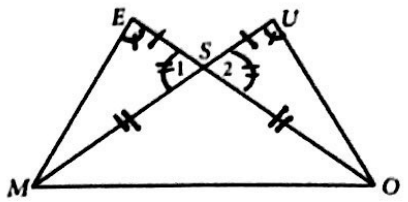
$8<x<36$

Chapter 4 Test Review Packet Name: _____

Provide each missing conclusion or justification in the flow chart proof. (1 question).

Given: $\overline{SE} \cong \overline{SU}$
$\angle E \cong \angle U$

Show: $\triangle MOS$ is isosceles



Flowchart Proof

1 $\overline{SE} \cong \overline{SU}$ — given

2 $\angle E \cong \angle U$ — given

3 $\angle 1 \cong \angle 2$ — vertical ∠ Thm.

$\triangle SEM \cong \triangle SUO$

4 $\triangle \,?\, \cong \triangle \,?\,$ — ASA Congruence Conjecture

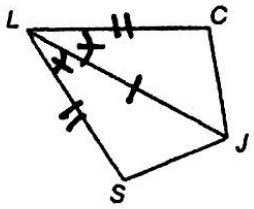
5 $\overline{MS} \cong \overline{SO}$ — CPCTC

4 $\triangle MOS$ is isosceles — Def. of isosceles $\triangle$

Write the complete proof. (2 question).

Given: $\angle CLJ \cong \angle SLJ$
$\overline{LC} \cong \overline{LS}$

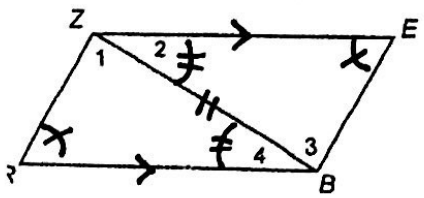
Prove: $\angle C \cong \angle S$



Conclusions	Justifications
0. $\angle CLJ \cong \angle SLJ$, $\overline{LC} \cong \overline{LS}$	0. Given
1. $\overline{LJ} \cong \overline{LJ}$	1. Reflexive
2. $\triangle CLJ \cong \triangle SLJ$	2. SAS $\cong$
3. $\angle C \cong \angle S$	3. CPCTC

Given: $\overline{ZE} \parallel \overline{BR}$
$\angle E \cong \angle R$

Prove: $\overline{ZE} \cong \overline{BR}$



Conclusions	Justifications
0. $\overline{ZE} \parallel \overline{BR}$, $\angle E \cong \angle R$	0. Given
1. $\angle 2 \cong \angle 4$	1. AIA Thm.
2. $\overline{ZB} \cong \overline{ZB}$	2. Reflexive
3. $\triangle ZEB \cong \triangle BRZ$	3. AAS $\cong$
4. $\overline{ZE} \cong \overline{BR}$	4. CPCTC