

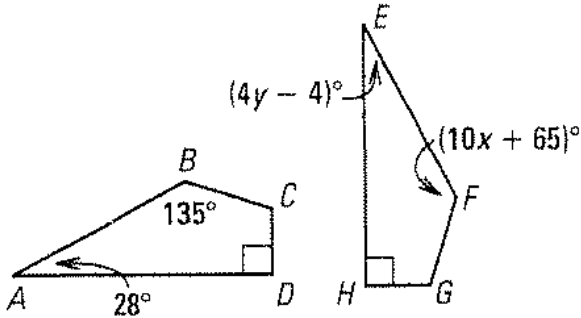
Unit 1 Day 13

Test Review

# Warm-up

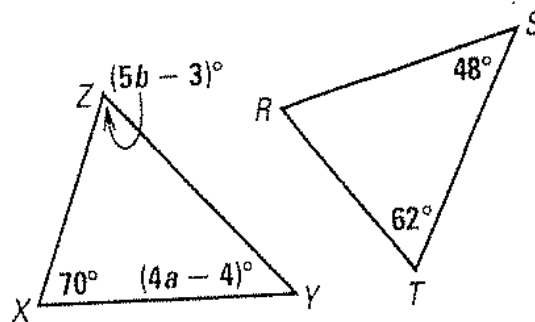
Use the given information to find the indicated values.

1. Given  $ABCD \cong EFGH$ , find the values of  $x$  and  $y$ .



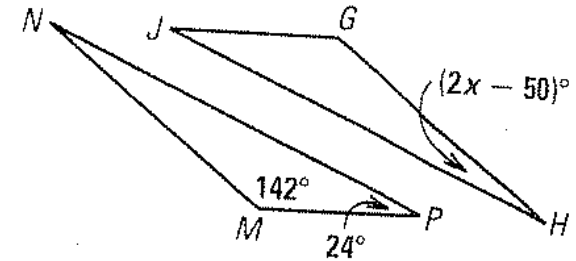
$$x = 7, y = 8$$

2. Given  $\triangle XYZ \cong \triangle RST$ , find the values of  $a$  and  $b$ .



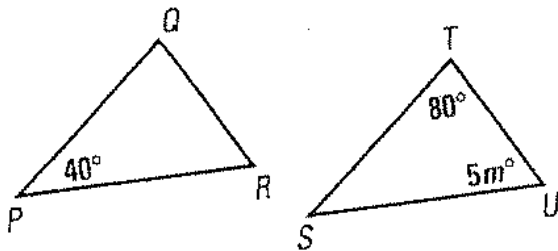
$$a = 13, b = 13$$

3. Given  $\angle M \cong \angle G$  &  $\angle N \cong \angle H$  find the value of  $x$ .



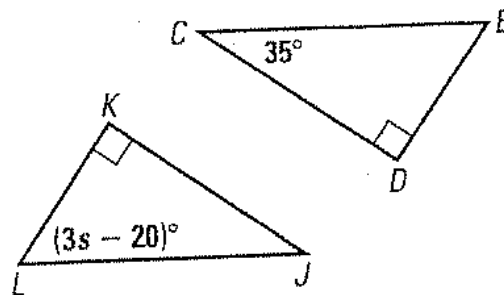
$$x = 32$$

4. Given  $\angle P \cong \angle S$  &  $\angle Q \cong \angle T$  find the value of  $m$ .



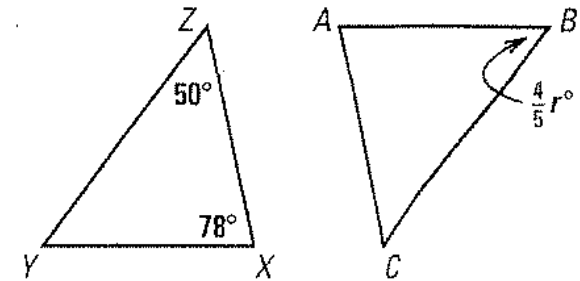
$$m = 12$$

5. Given  $\angle K \cong \angle D$  &  $\angle J \cong \angle C$  find the value of  $s$ .



$$s = 25$$

6. Given  $\angle A \cong \angle X$  &  $\angle C \cong \angle Z$  find the value of  $r$ .



$$r = 65$$

# Day 12 Homework Answers

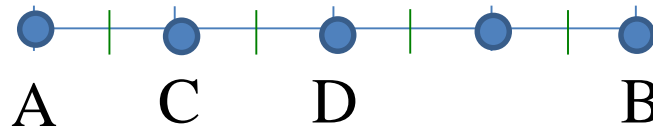
1. Point C lies on such that  $AC = \frac{1}{4}AB$ . If the endpoints of AB are A(8, 12) and B(-4, 0), find the coordinates of C.

D = midpoint of AB

$$= \left( \frac{8 + (-4)}{2}, \frac{0 + 12}{2} \right) = (2, 6)$$

C = midpoint of AD

$$= \left( \frac{8 + 2}{2}, \frac{12 + 6}{2} \right) = (5, 9)$$



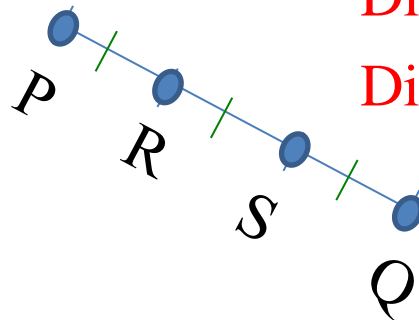
2. Suppose PQ has endpoints P(2, 3) and Q(8, -9). Find the coordinates of R and S so that R lies between P and S and  $\overline{PR} \cong \overline{RS} \cong \overline{SQ}$ .

x distance = 6

$$\frac{6}{3} = 2$$

y distance = 12

$$\frac{12}{3} = 4$$



Distance from P to R = (2+2, 3-4) = R (4, -1)

Distance from R to S = (4+2, -1-4) = S(6, -5)

# Day 12 Homework Answers

3. In the figure below, EC bisects AD at C, and EF bisects AC at B. For each of the following, find the value of x and the measure of the indicated segment.

a)  $AB = 3x + 6$ ,  $BC = 2x + 14$ ;  $\overline{AC}$      $x = 8$ ,  $AC = 60$

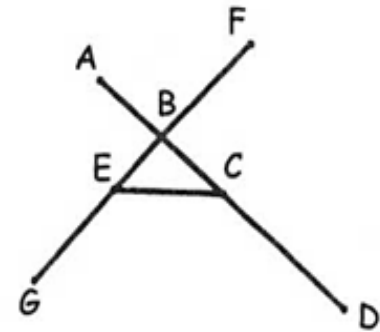
b)  $AC = 5x - 8$ ,  $CD = 16 - 3x$ ;  $\overline{AD}$      $x = 3$ ,  $AD = 14$

c)  $AD = 6x - 4$ ,  $AC = 4x - 3$ ;  $\overline{CD}$      $x = 1$ ,  $CD = 1$

d)  $AC = 3x - 1$ ,  $BC = 12 - x$ ;  $\overline{AB}$      $x = 5$ ,  $AB = 7$

e)  $AD = 5x + 2$ ,  $BC = 7 - 2x$ ;  $\overline{CD}$      $x = 2$ ,  $CD = 6$

f)  $AB = 4x + 17$ ,  $CD = 25 + 5x$ ;  $\overline{BC}$      $x = -3$ ,  $BC = 5$



a)  $AB = BC$   
 $3x + 6 = 2x + 14$   
 $x = 8$   
 $AC = 2(8) + 6 + 2(8) + 14 = 60$

b)  $5x - 8 = 16 - 3x$   
 $8x = 24$      $x = 3$   
 $AD = 5(3) - 8 + 16 - 3(3) = 14$

c)  $AD = 2AC$      $CD = AC$   
 $6x - 4 = 2(4x - 3)$      $= 4(1) - 3 = 1$   
 $6x - 4 = 8x - 6$   
 $x = 1$

d)  $AC = 2BC$      $AB = BC$   
 $3x - 1 = 2(12 - x)$      $= 12 - 5 = 7$   
 $3x - 1 = 24 - 2x$   
 $5x = 25$      $x = 5$

e)  $AD = 4BC$      $CD = 2BC$   
 $5x + 2 = 4(7 - 2x)$      $= 2(7 - 2x)$   
 $5x + 2 = 28 - 8x$      $= 2(3)$   
 $13x = 26$      $x = 2$      $= 6$

f)  $2AB = CD$      $BC = AB$   
 $2(4x + 17) = 25 + 5x$      $= 4(-3) + 17$   
 $8x + 34 = 25 + 5x$      $= 5$   
 $3x = -9$      $x = -3$

# Day 12 Homework Answers

4. A rectangle has vertices A(-1,1), B(3,4), C(6,0), and D(2,-3).  
Graph the rectangle on separate sheet of graph paper.  
Find the area and perimeter of the rectangle.

$$AB = \sqrt{(-1-3)^2 + (1-4)^2} = 5 \quad CD = \sqrt{(6-2)^2 + (0-3)^2} = 5$$

$$BC = \sqrt{(3-6)^2 + (4-0)^2} = 5 \quad AD = \sqrt{(-1-2)^2 + (1-3)^2} = 5$$

$$\text{Area} = 25$$

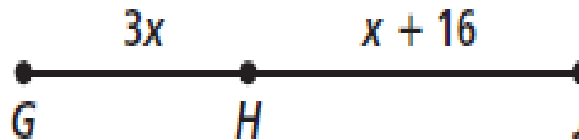
$$\text{Perimeter} = 20$$

5. IF  $GJ = 32$ , find:

a.  $X = 4$

b.  $GH = 12$

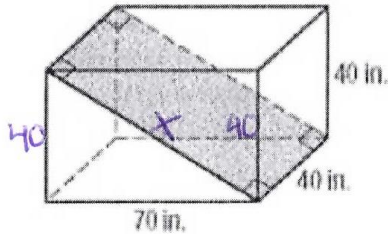
c.  $HJ = 20$



# Day 12 Homework Answers

6.

In the figure, the shaded region is a planar cross-section of the rectangular solid. What is the area of the cross-section to the nearest square inch?



$$40^2 + 70^2 = x^2$$

$$\sqrt{6500} = x$$

$$10\sqrt{65} = x$$

inches

$$\text{area} = bh$$

$$= (40 \text{ in})(10\sqrt{65} \text{ in})$$

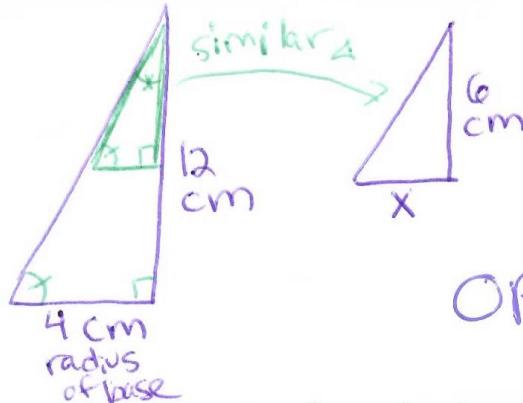
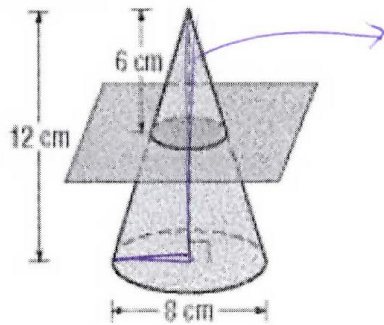
$$= 400\sqrt{65} \text{ inches}^2$$

$$\approx 3224.9 \text{ inches}^2$$

- a. 220 square inches
- b. 3,225 square inches**
- c. 57,612 square inches
- d. 112,000 square inches

7.

A right circular cone with diameter of base 8 centimeters and height 12 centimeters is shown. What is the radius of the cross-section that occurs 6 centimeters from the vertex, parallel to the base?

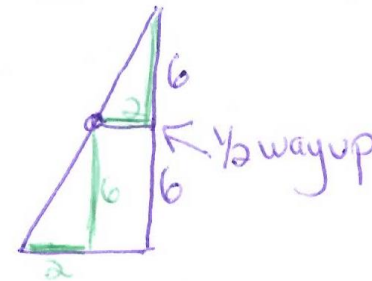


$$\frac{12}{6} = \frac{4}{x}$$

$$12x = 24$$

$$x = 2 \text{ cm}$$

OR



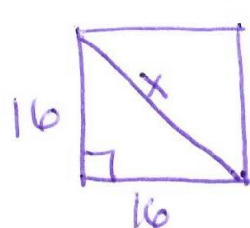
$$\frac{x \text{ dist}}{2} = \frac{4}{2} = 2$$

$$\frac{y \text{ dist}}{2} = \frac{12}{2} = 6$$

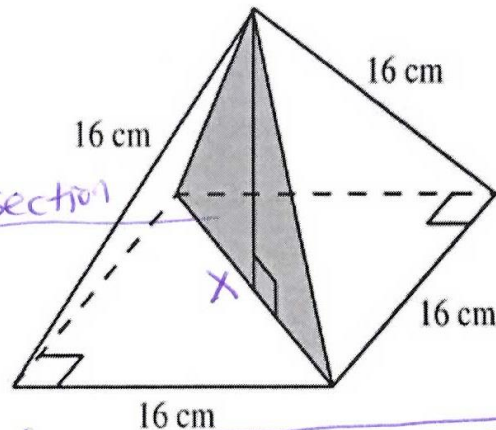
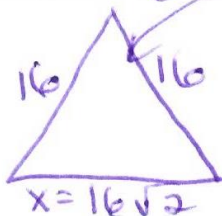
- a. 2 centimeters**
- b. 4 centimeters
- c. 6 centimeters
- d. 8 centimeters

# Day 12 Homework Answers

8. Challenge: The shaded area in the figure below is a planar cross section of the pyramid. The pyramid's edges are all 16 centimeters long and the base of the pyramid is a square. (The figure may not be drawn to scale.) What is the perimeter of the cross section?



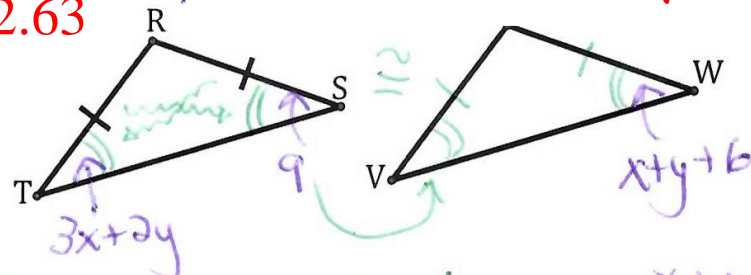
$x = \text{hypotenuse of } r + \Delta = \text{diagonal of base}$   
 $16^2 + 16^2 = x^2$



**Perimeter =  $32 + 16\sqrt{2} = 54.63$**

9. Find the values of x and y given  $x = 16\sqrt{2} = 22.63$

$\Delta RST \cong \Delta UVW$ ,  $m\angle T = 3x + 2y$ ,  $m\angle S = 9$ ,  
 and  $m\angle W = x + y + 6$ .



$$\begin{aligned} 3x + 2y &= 9 \\ x + y + 6 &= 9 \end{aligned}$$

$$\begin{aligned} 3x + 2y &= 9 \\ x + y &= 3 \end{aligned}$$

$$\begin{aligned} 3x + 2y &= 9 \\ -2(x + y) &= -6 \end{aligned}$$

$$\begin{aligned} 3x + 2y &= 9 \\ -2x - 2y &= -6 \end{aligned}$$

$$\begin{aligned} x + y + 6 &= 9 \\ 3 + y + 6 &= 9 \end{aligned}$$

**$x = 3$**

**$y = 0$**

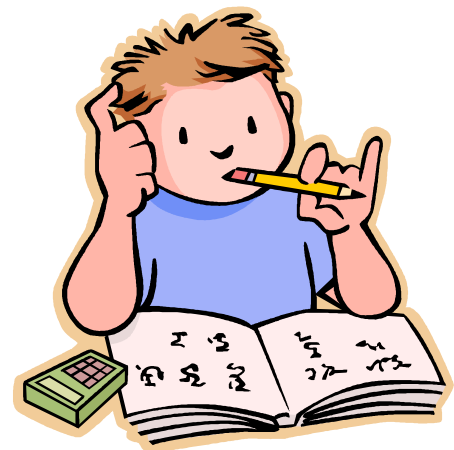
# **Tonight's HW = Test Review**

Packet p. 37-39 &

**Study for test!**

Check answers on Weebly!

**UNIT 1 TEST  
TOMORROW**





# Whiteboard Review

- Get a whiteboard, marker and eraser!

7.  $\triangle QRS \cong \triangle GHJ$ ,  $RS = 12$ ,  $QR = 10$ ,  $QS = 6$ , and  $HJ = 2x - 4$ .

a. Draw and label a figure to show the congruent triangles.

b. Find  $x$ .

$$x = 8$$

8.  $\triangle JKL \cong \triangle DEF$ ,  $m\angle J = 36$ ,  $m\angle E = 64$ , and  $m\angle F = 3x + 52$ .
- Draw and label a figure to show the congruent triangles.
  - Find  $x$ .

$$r = 28/3$$

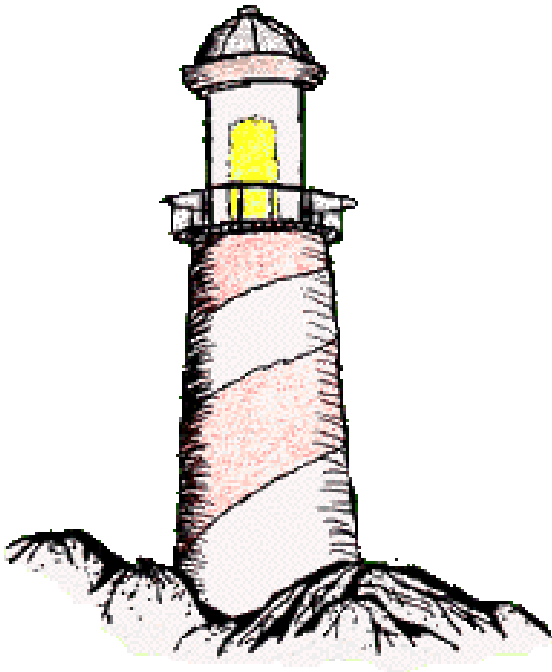
A lighthouse casts a 128-foot shadow. A nearby lamppost that measures 5 feet 3 inches casts an 8-foot shadow.

Write a proportion that can be used to determine the height of the lighthouse.

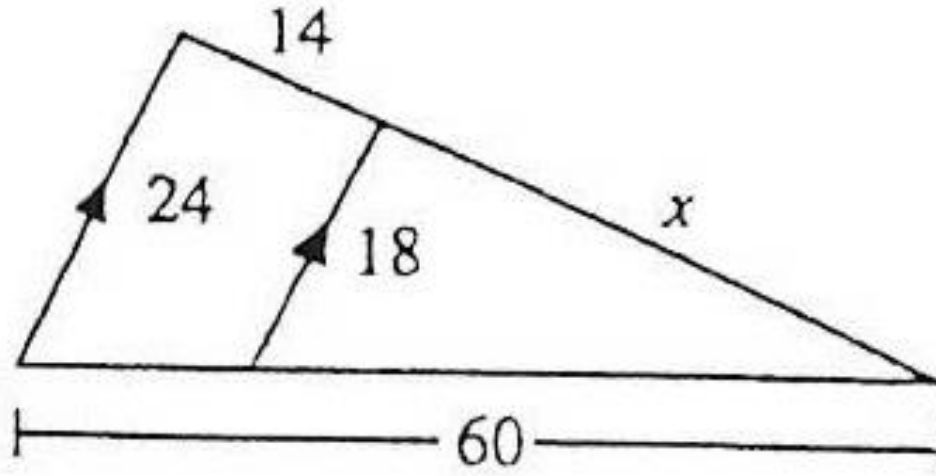
What is the height of the lighthouse?

$$\frac{x}{5.25} = \frac{128}{8}$$

**84 ft.**

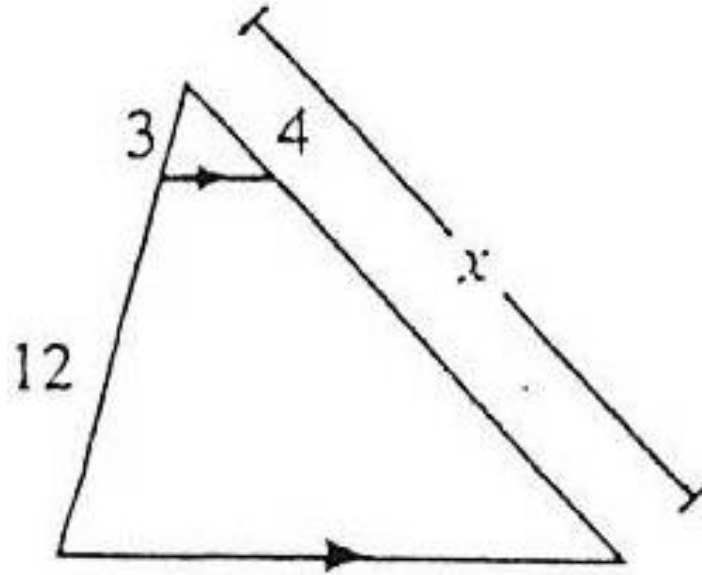


Use triangle similarity to find the value of  $x$ .



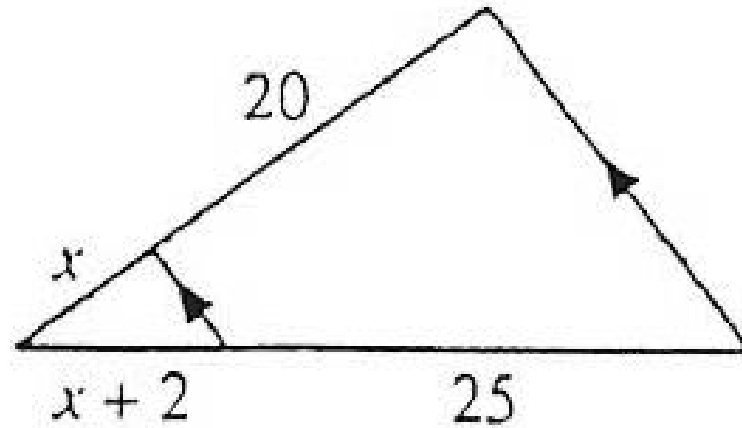
$$x = 42$$

Use triangle similarity to find the value of  $x$ .



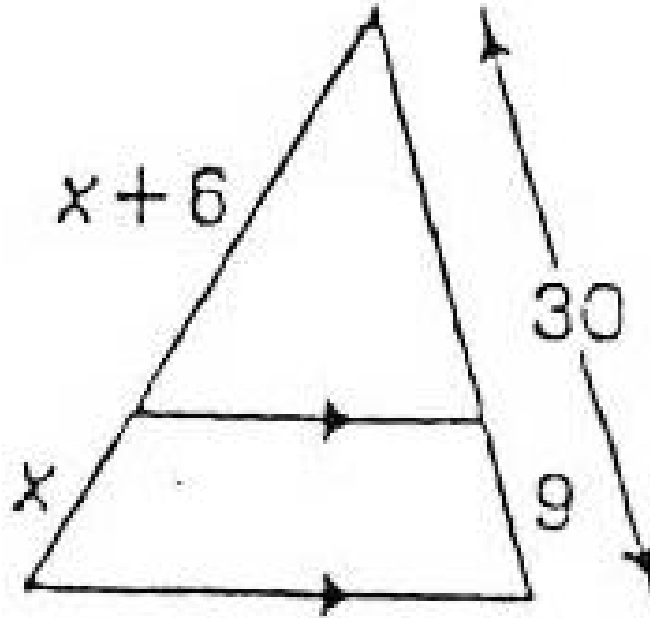
$$x = 20$$

Use triangle similarity to find the value of  $x$ .



$$x = 8$$

Use triangle similarity to find the value of  $x$ .

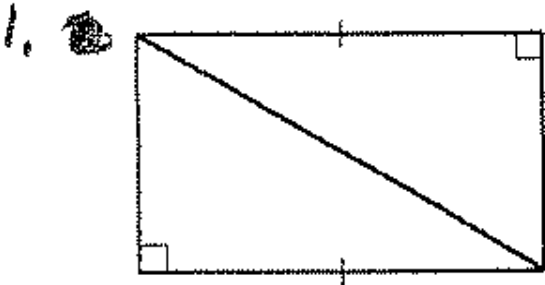


$$x = 4.5$$

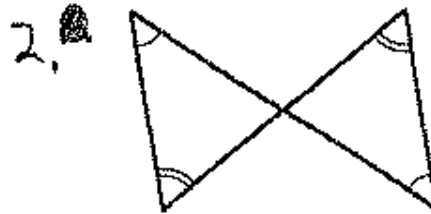


State the postulate or theorem you would use to prove each pair of triangles congruent. If the triangles cannot be proved congruent, write *not possible*.

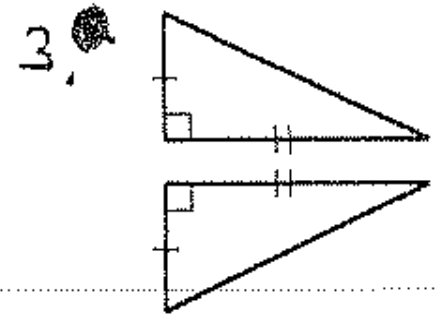
**HL  $\cong$**



**Not possible**  
(AA is only for  $\sim$ )

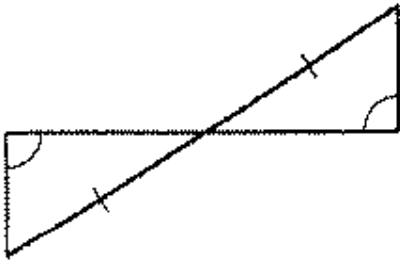


**SAS  $\cong$**



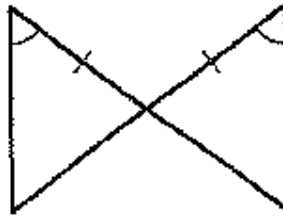
State the postulate or theorem you would use to prove each pair of triangles congruent. If the triangles cannot be proved congruent, write *not possible*.

4.



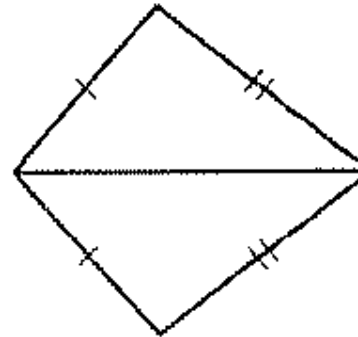
**AAS**  $\cong$

5.



**ASA**  $\cong$

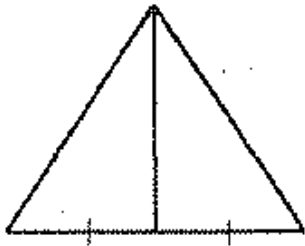
6.



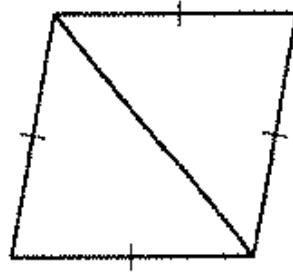
**SSS**  $\cong$

State the postulate or theorem you would use to prove each pair of triangles congruent. If the triangles cannot be proved congruent, write *not possible*.

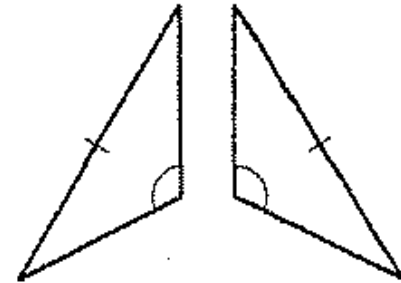
**Not possible**



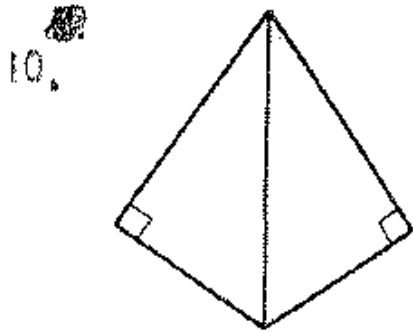
**SSS  $\cong$**



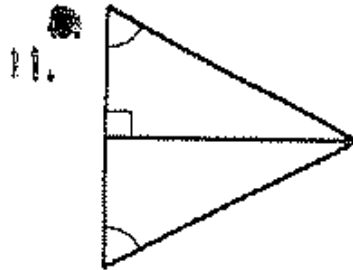
**Not possible**



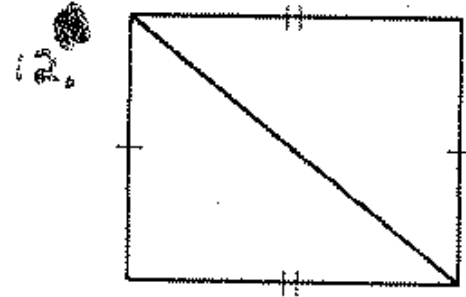
State the postulate or theorem you would use to prove each pair of triangles congruent. If the triangles cannot be proved congruent, write *not possible*.



**Not possible**



**AAS  $\cong$**



**SSS  $\cong$**

**JEOPARDY!**



# Homework - Test Review

Packet p. 37-39 &

**Study for test!**

Check answers on Weebly!

**UNIT 1 TEST  
TOMORROW**

