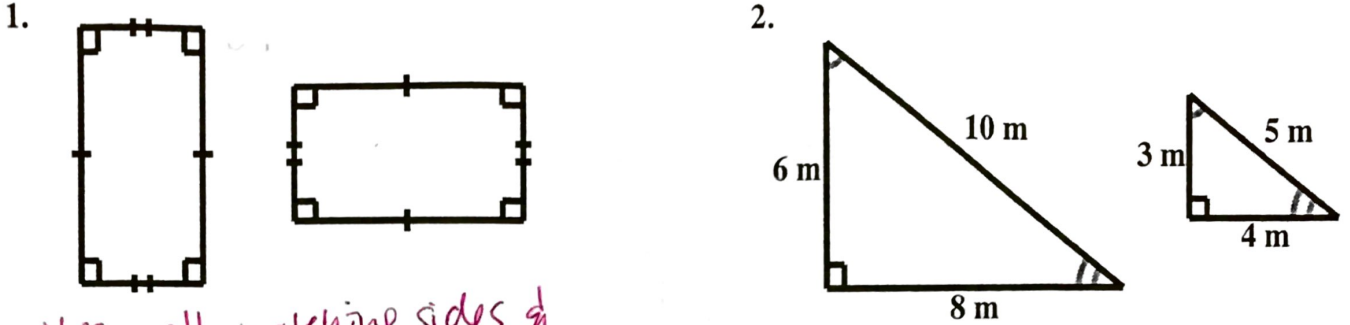


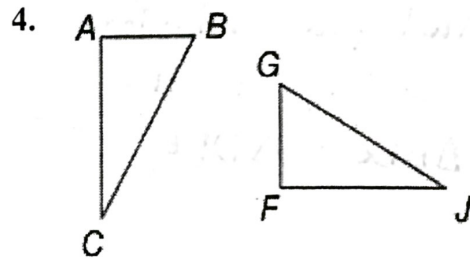
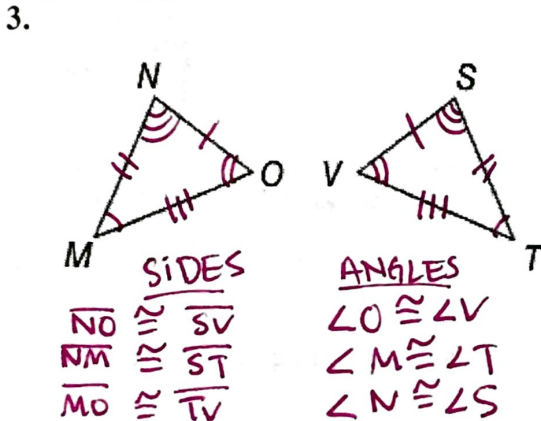
## HW 8-6: Congruence

Determine whether each pair of polygons is congruent. Explain why it is or is not.

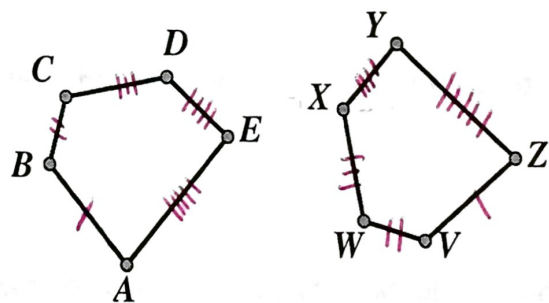
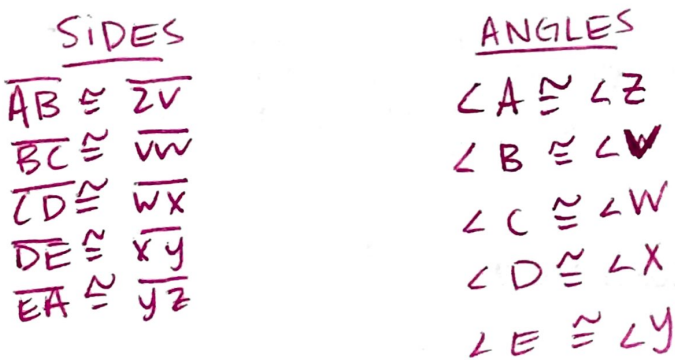


Yes, all matching sides & angles are congruent.

Write congruence statements for each set of congruent figures. Identify all pairs of congruent corresponding parts.



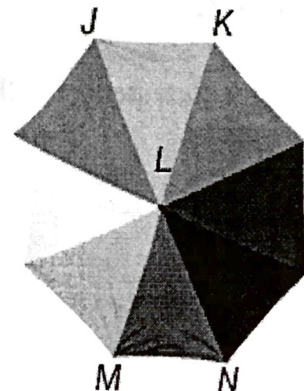
5. Pentagons  $ABCDE$  and  $VWXYZ$  are congruent. Write congruence statements the following congruent figures. Identify all pairs of congruent corresponding parts.



6. In the umbrella shown at the right,  $\triangle JLK \cong \triangle NLM$ .

a. If  $m\angle JKL = 66$ , then  $m\angle NML =$  \_\_\_\_\_ ?

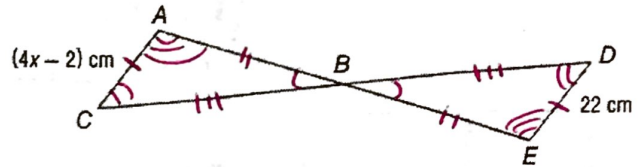
b. If  $MN = 15$  inches, then  $KJ =$  \_\_\_\_\_ ?



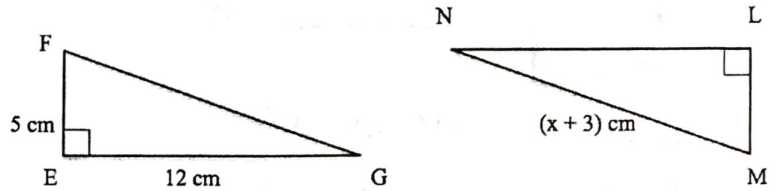
7. In the figure,  $\triangle ABC \cong \triangle EBD$ .

- On the figure, draw arc and tic marks to identify the corresponding parts.
- Find the value of  $x$ .

$x = 6$

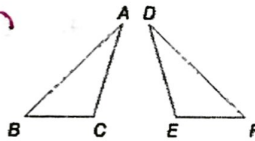


8. In the figure at the right,  $\triangle EFG \cong \triangle LMN$ . Find the value of  $x$ .



9. Mandar is making a congruence statement for the congruent triangles shown. Find his mistake and correct it.

He didn't pay attention to the order of the letters.  $\triangle ABC \cong \triangle DFE$



10. Determine whether each statement is *true* or *false*. If true, explain your reasoning. If false, give a counterexample.

a. If two figures are congruent, their perimeters are equal.

b. If two figures have the same perimeter, they are congruent.

11. Which of the following statements is *not* true if  $\triangle CDE \cong \triangle FGH$ ?

(A)  $\angle C \cong \angle F$

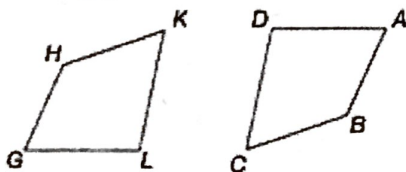
(B)  $\overline{CE} \cong \overline{HG}$

(C)  $\angle H \cong \angle E$

(D)  $\overline{DC} \cong \overline{GF}$

Write congruence statements for the following congruent figures. Identify all pairs of congruent corresponding parts.

12.



13. Quadrilaterals  $KLMN$  and  $FGHJ$  are congruent. Write congruence statements for the following congruent figures. Identify all pairs of congruent corresponding parts.

SIDES

$$\overline{MN} \cong \overline{HJ}$$

$$\overline{NK} \cong \overline{JF}$$

$$\overline{KL} \cong \overline{FG}$$

$$\overline{LM} \cong \overline{GH}$$

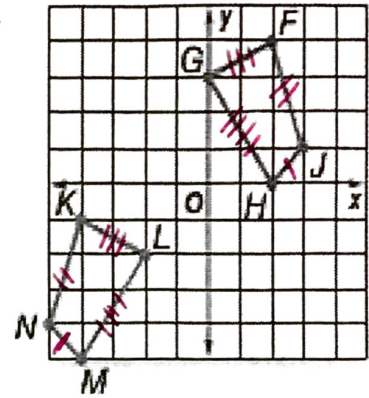
ANGLES

$$\angle M \cong \angle H$$

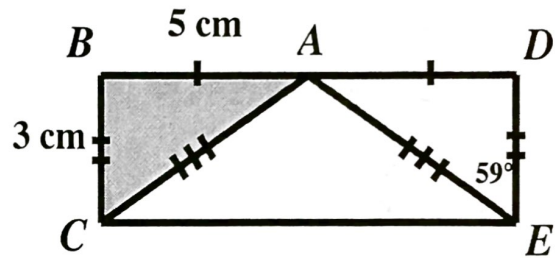
$$\angle N \cong \angle J$$

$$\angle K \cong \angle F$$

$$\angle L \cong \angle G$$



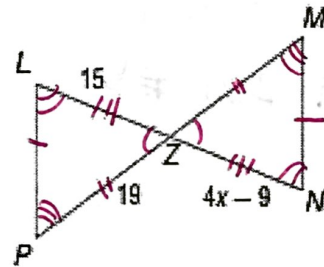
14. In the quilt design shown,  $\triangle ABC \cong \triangle ADE$ . What is the measure of  $\angle BCA$ ?



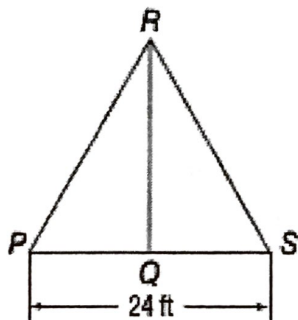
15. In the figure,  $\triangle LZP \cong \triangle NZM$ .

- On the figure, draw arc and tick marks to then identify the corresponding parts.
- Find the value of  $x$ .

$$x = 6$$



16. Wires stretching from the top of a telephone pole to the ground create two congruent triangles,  $\triangle PQR$  and  $\triangle SQR$ . Find  $QS$ .



- 12 ft
- 24 ft
- 48 ft
- 65 ft

Solve each equation.

17.  $5m + 3 = 9m - 1$

$m = 1$

20.  $4(m - 2) = 4m$

18.  $\frac{w - 5}{4} = \frac{2}{3}$

$w = \frac{23}{3}$

or  $7\frac{2}{3}$

21.  $8d = 4d - 18$

19.  $3(g - 1) + 7 = 3g + 4$

All Real #'s

22.  $2h - 4h + 5 = 3(h - 9)$