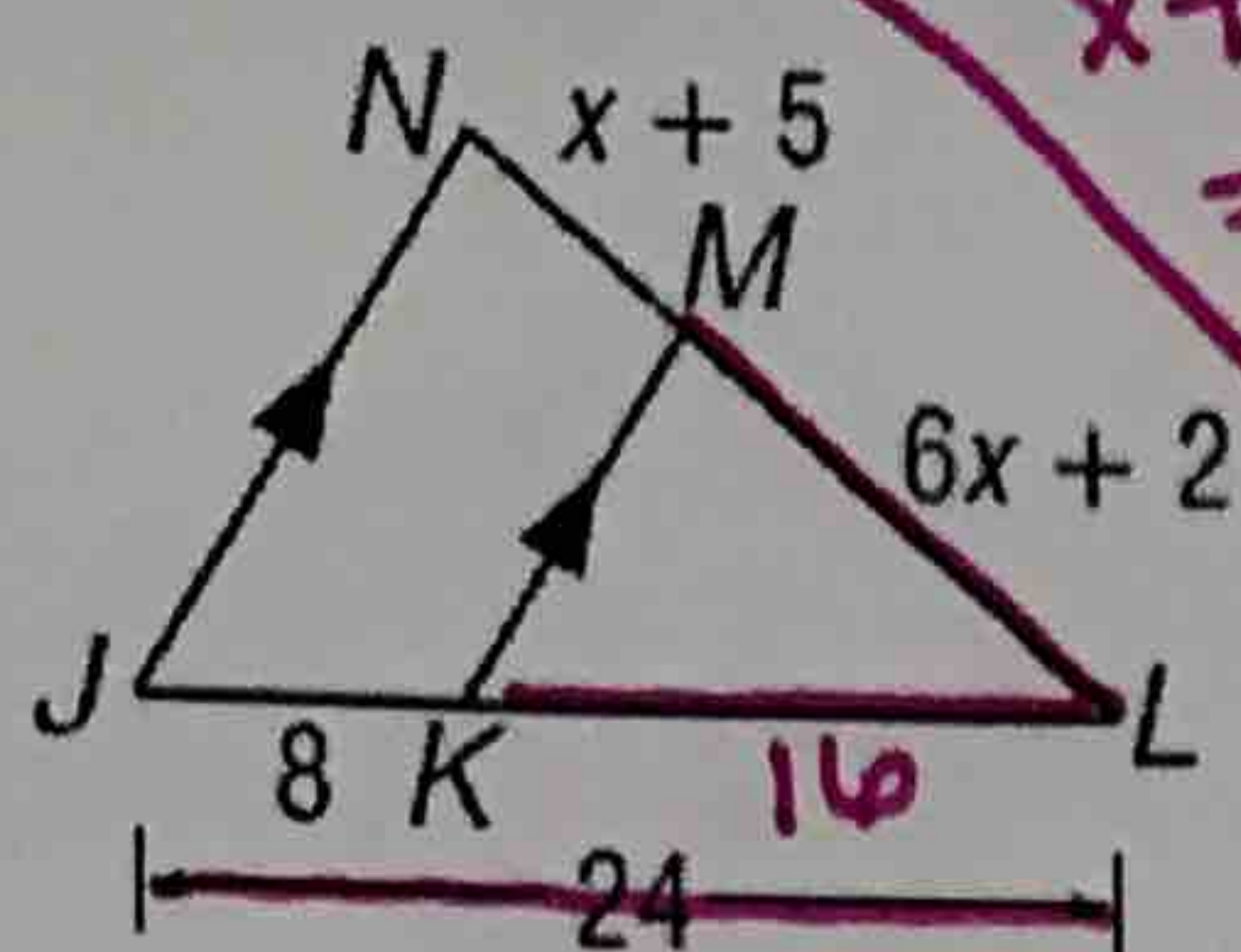


6.  $\overline{NL}$  and  $\overline{ML}$



$$x + 5 + 6x + 2 = 7x + 7$$

$$\frac{6x + 2}{7x + 7} = \frac{16}{24}$$

$$24(6x + 2) = 16(7x + 7)$$

$$144x + 48 = 112x + 112$$

$$32x = 64$$

$$\boxed{x = 2}$$

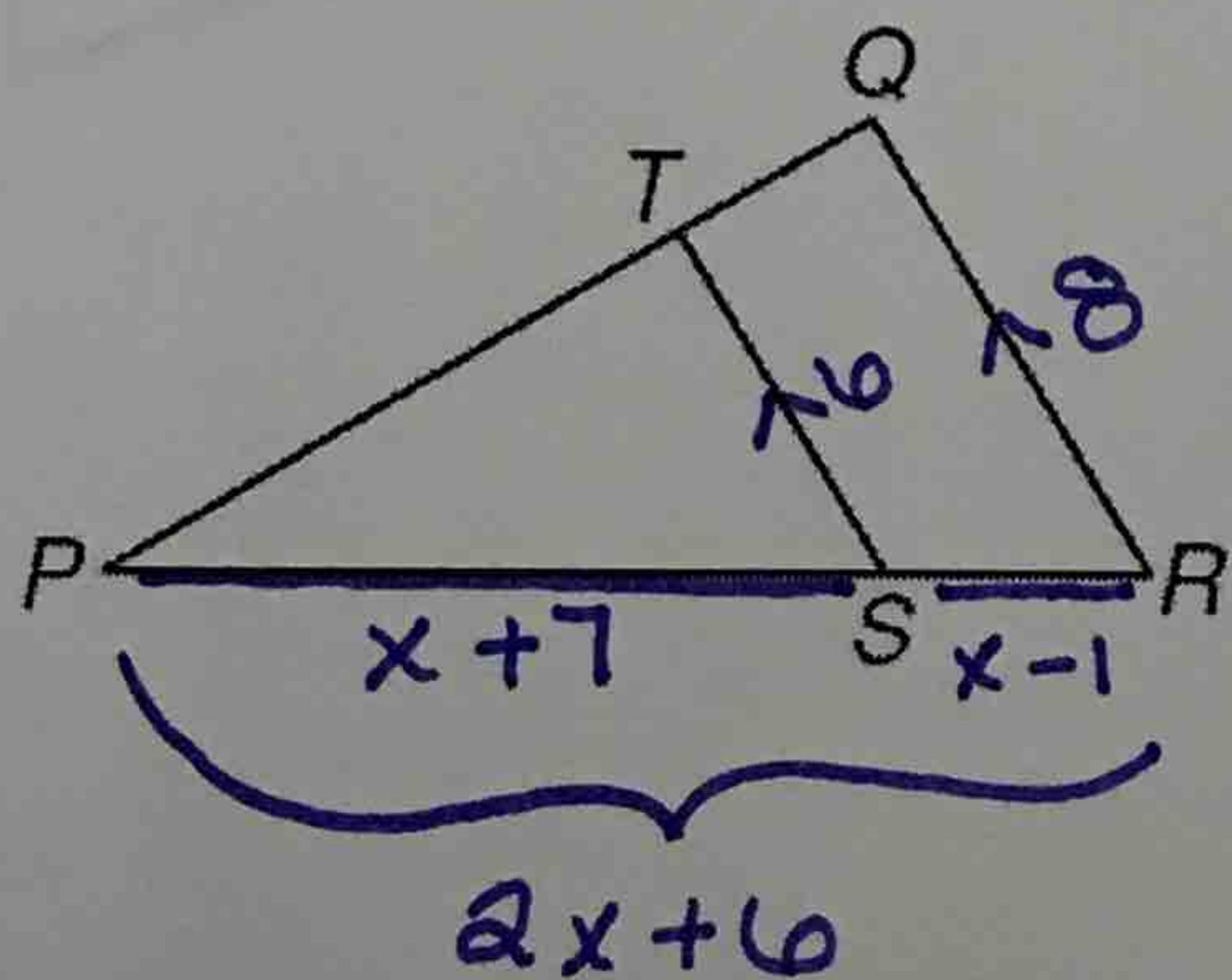
Oh! look! Parallel!

a)  $\triangle LMK \sim \triangle LNJ$

b)  $x = 2$

c)  $NL = 21$ ,  $ML = 14$

7. If  $\overline{TS} \parallel \overline{QR}$ ,  $TS = 6$ ,  $PS = x + 7$ ,  $QR = 8$ , and  $SR = x - 1$ , find  $PS$  and  $PR$ .



$$\frac{2x + 6}{x + 7} = \frac{8}{6}$$

$$6(2x + 6) = 8(x + 7)$$

$$12x + 36 = 8x + 56$$

$$4x = 20$$

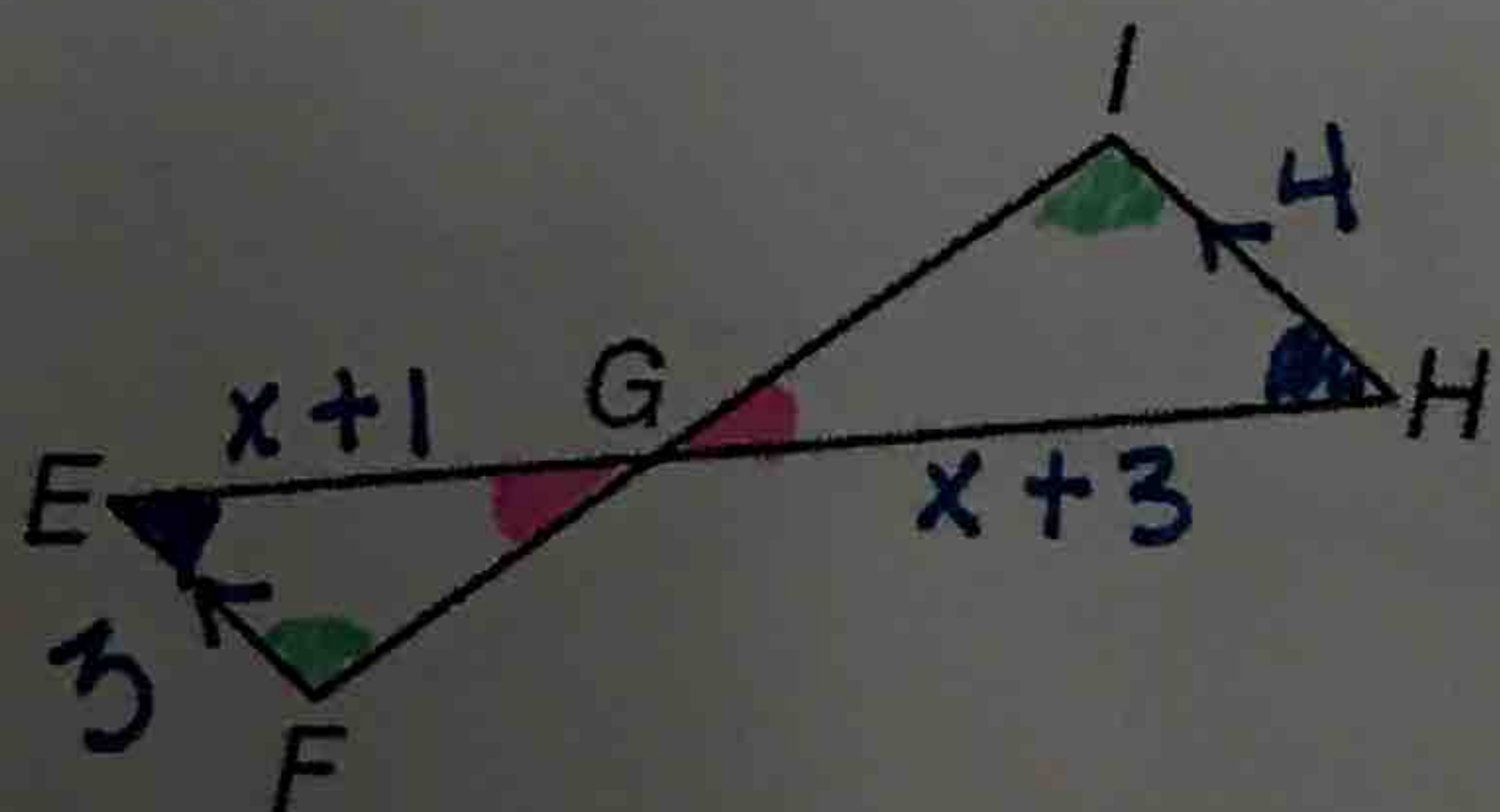
$$\boxed{x = 5}$$

a)  $\triangle PQR \sim \triangle PTS$

b)  $x = 5$

c)  $PS = 12$ ,  $PR = 16$

8. If  $\overline{EF} \parallel \overline{HI}$ ,  $EF = 3$ ,  $EG = x + 1$ ,  $HI = 4$ , and  $HG = x + 3$ , find  $EG$  and  $HG$ .



$$\frac{x + 1}{x + 3} = \frac{3}{4}$$

$$4(x + 1) = 3(x + 3)$$

$$4x + 4 = 3x + 9$$

$$\boxed{x = 13}$$

a)  $\triangle EFG \sim \triangle HGI$

b)  $x = 13$

c)  $EG = 14$ ,  $HG = 16$

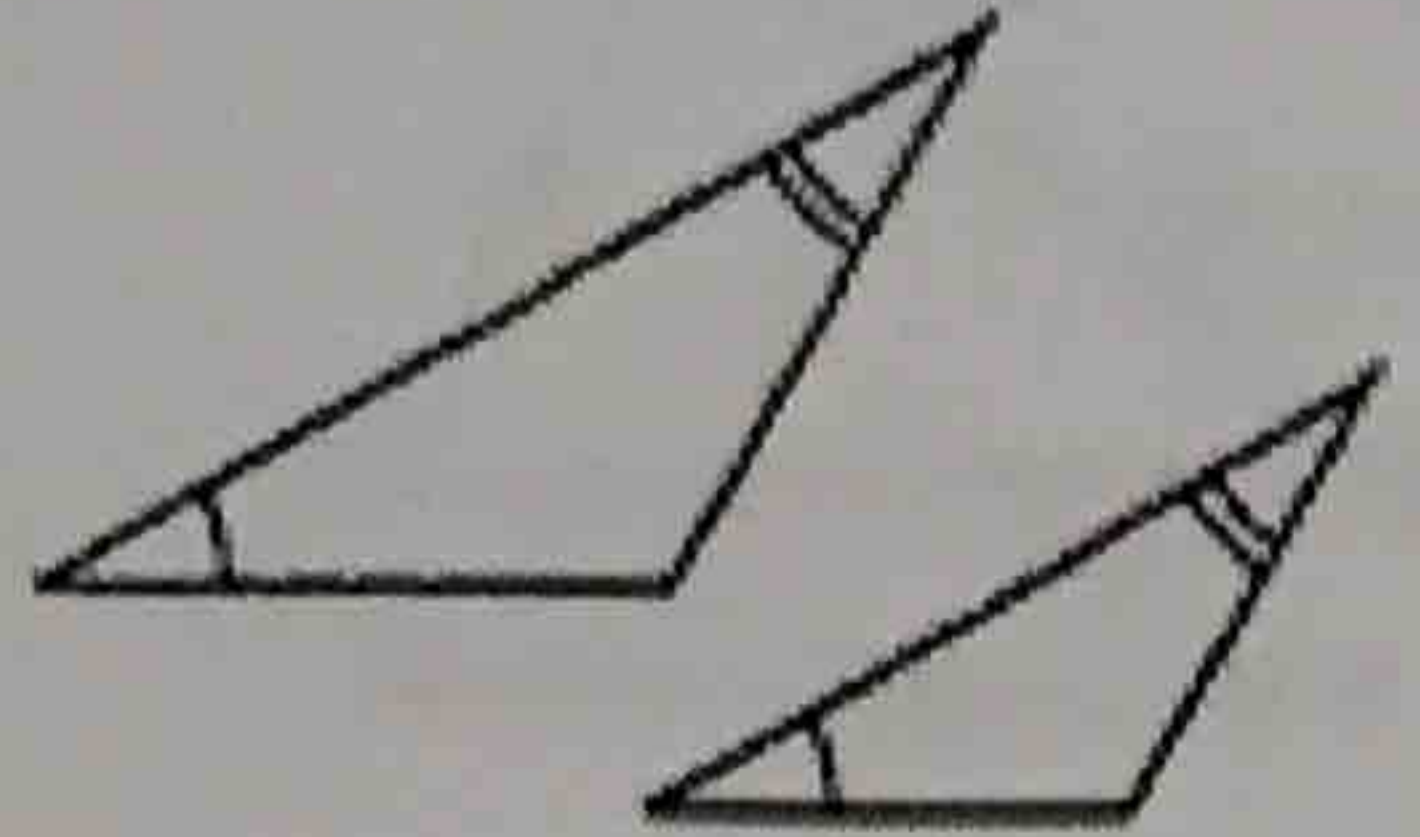


Name: Key

# 7.3 TRIANGLE SIMILARITY HOMEWORK

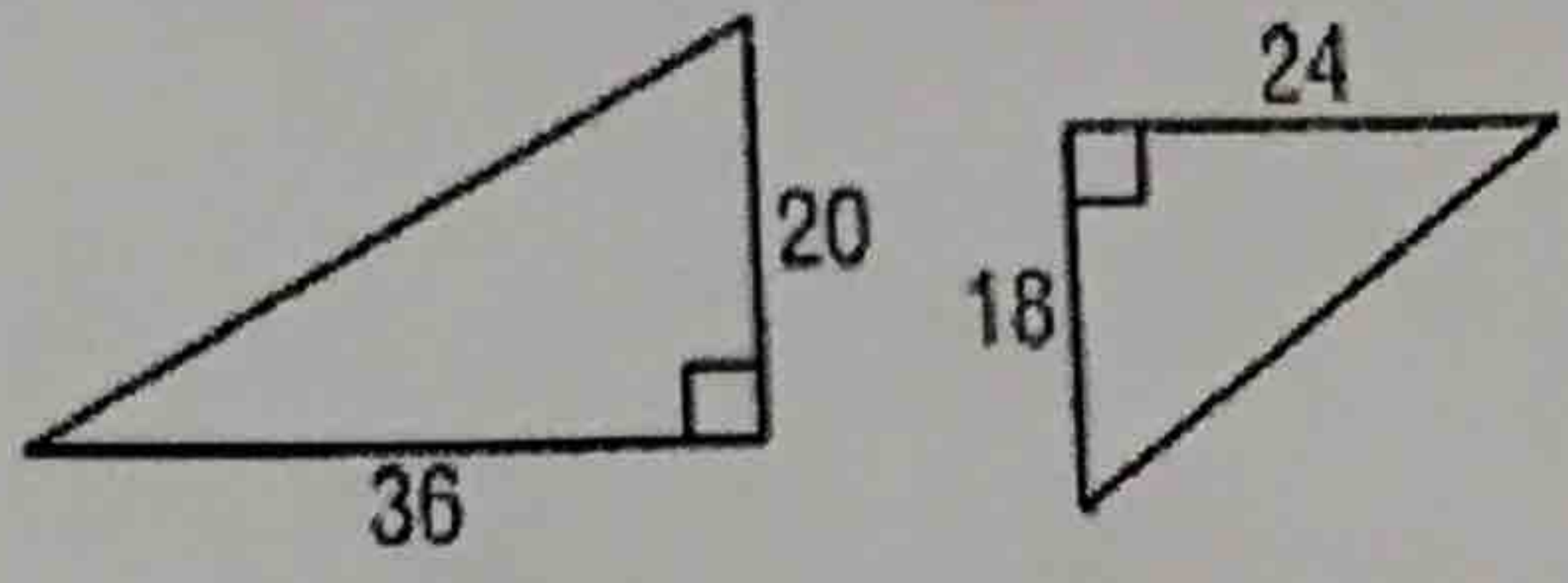
Directions: Determine whether the pairs of triangles are similar by AA Similarity.

1.



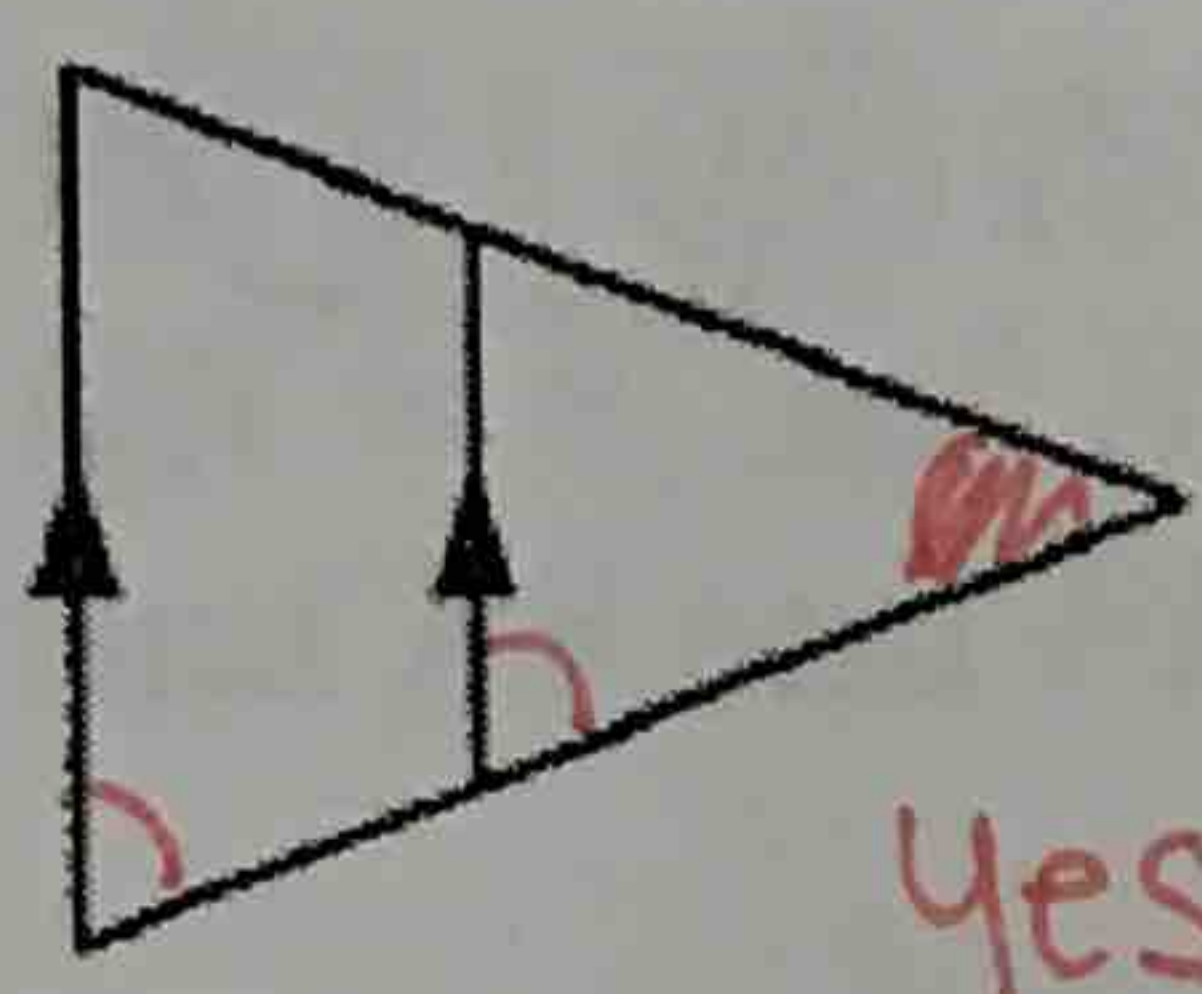
yes by AA sim.

2.



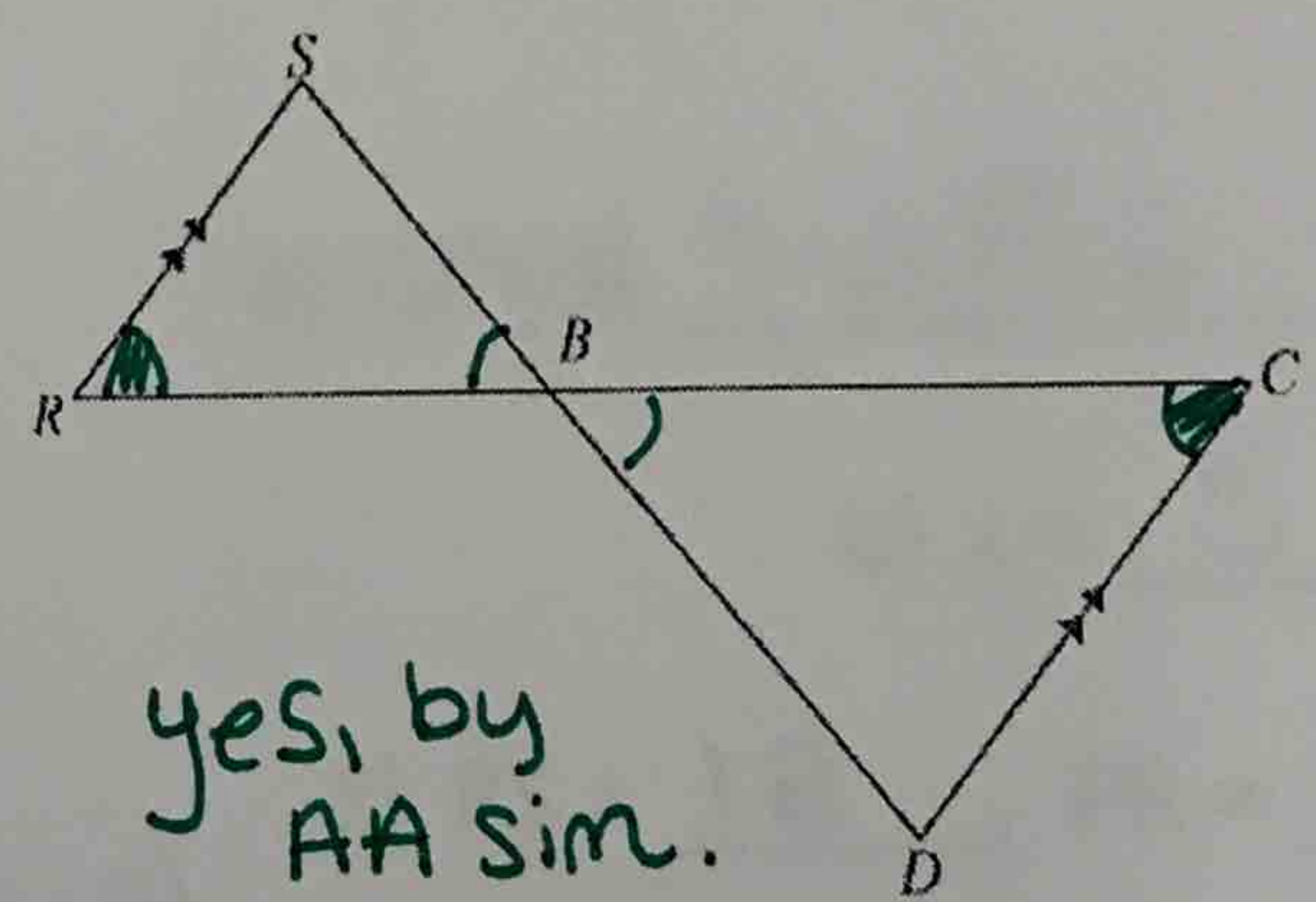
Not similar

3.



yes by AA sim

4.

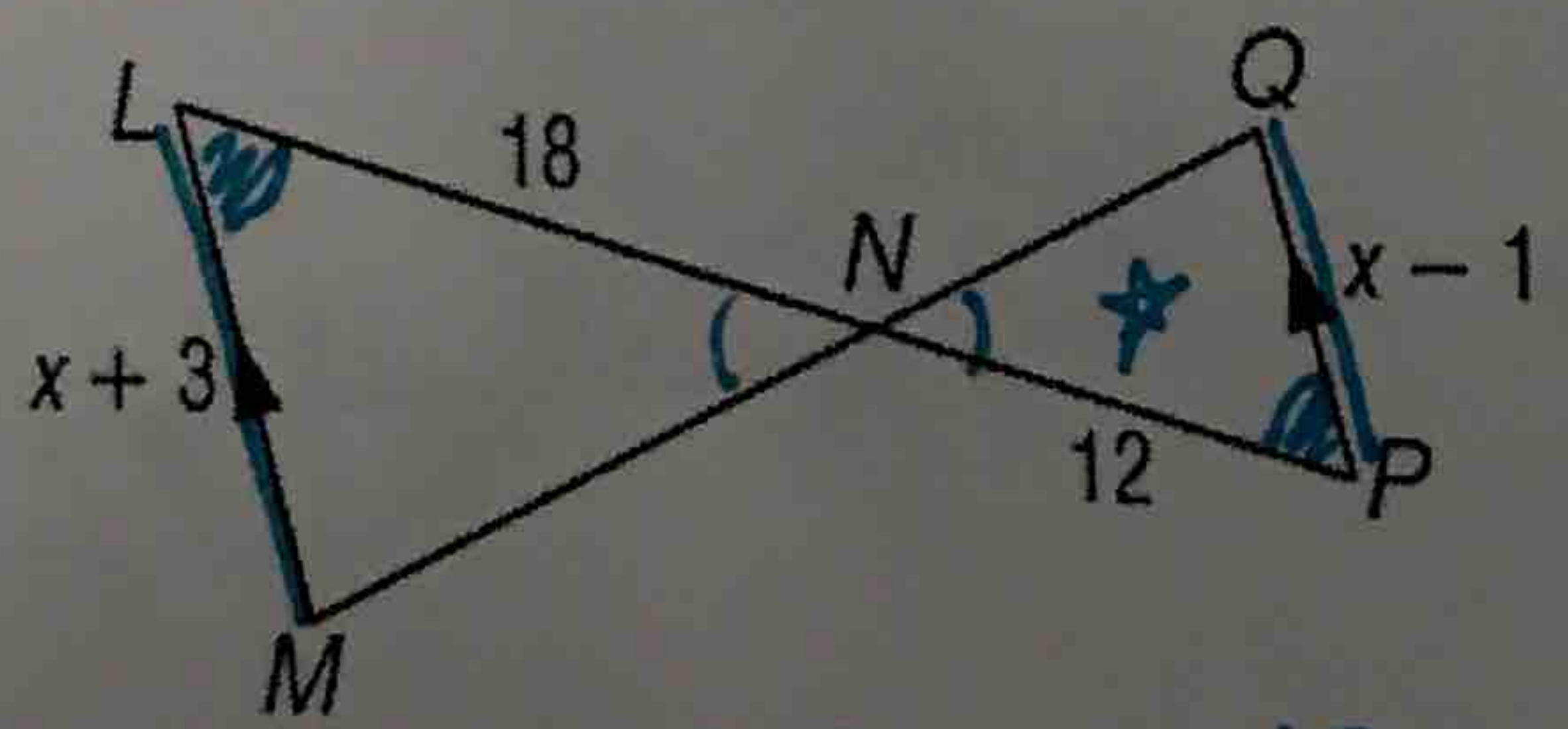


yes, by AA sim.

Directions: The two triangles given are similar. Complete the following for each problem:

- A. Write the similarity statement.
- B. Find x.
- C. Find the measure of the indicated side

5.  $\overline{LM}$  and  $\overline{QP}$



a)  $\triangle LNM \sim \triangle PNQ$

b)  $x = 9$

c)  $LM = 12$ ,  $QP = 8$

$$\frac{x-1}{x+3} = \frac{12}{18}$$

$$18(x-1) = 12(x+3)$$

$$18x - 18 = 12x + 36$$

$$54 = 6x$$

$$9 = x$$