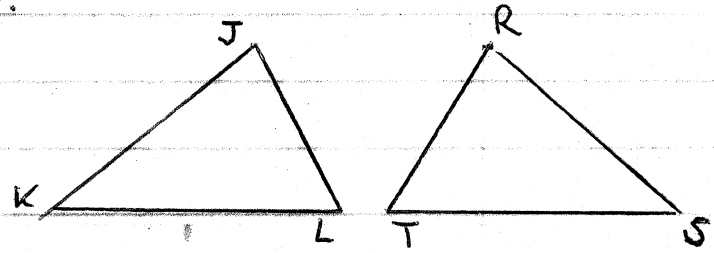
Geometry, Ch 4-2, Exer., pg 218 #1, 3-10, 15-16, 18-20

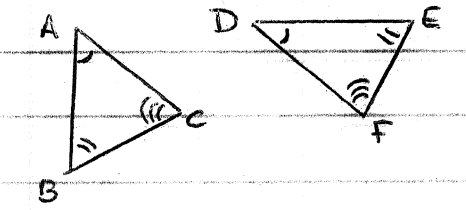
1. Copy the congruent triangles, then label the vertices so $\triangle JKL \cong \triangle RST$. Identify all pairs of congruent corresponding angles and corresponding sides.



$\cong$ Angles	$\cong$ Sides
$\angle J \cong \angle R$	$\overline{JK} \cong \overline{RS}$
$\angle K \cong \angle S$	$\overline{KL} \cong \overline{ST}$
$\angle L \cong \angle T$	$\overline{LJ} \cong \overline{TR}$

Identify all pairs of congruent corresponding parts. Then write another congruence statement for the figures.

3. $\triangle ABC \cong \triangle DEF$

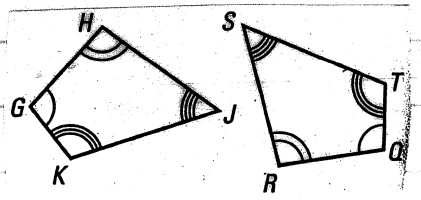


$\angle A \cong \angle D$, $\angle B \cong \angle E$, $\angle C \cong \angle F$

$\overline{AB} \cong \overline{DE}$, $\overline{BC} \cong \overline{EF}$, $\overline{CA} \cong \overline{FD}$

$\triangle CBA \cong \triangle FED$

4. $GHJK \cong QRST$

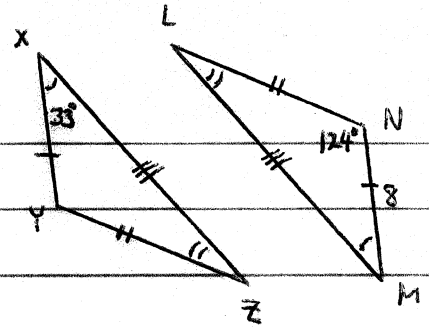


$\angle G \cong \angle Q$, $\angle H \cong \angle R$, $\angle J \cong \angle S$, $\angle K \cong \angle T$

$\overline{GH} \cong \overline{QR}$, $\overline{HJ} \cong \overline{RS}$, $\overline{JK} \cong \overline{ST}$, $\overline{KG} \cong \overline{TQ}$

$JHGK \cong SRQT$

Given: $\triangle XYZ \cong \triangle MNL$.



Complete each statement.

= asks for a number;
$\cong$ asks for a name

5. $m\angle Y$ = 124°

6. $m\angle M$ = 33°

7. YX = 8

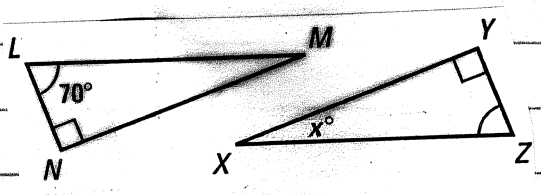
8. $\overline{YZ} \cong$ $\overline{NL}$ [Not $\overline{LN}$]

9. $\triangle LNM \cong \triangle ZYX$

10. $\triangle YXZ \cong \triangle NML$

Find the value of x.

15.



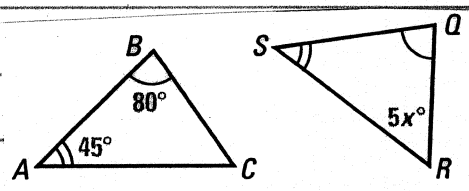
$\angle L \cong \angle Z = 70°$

$\angle X + \angle Y + \angle Z = 180°$

$\angle X + 90° + 70° = 180°$

$\angle X = 20°$; $\boxed{x = 20}$

16.



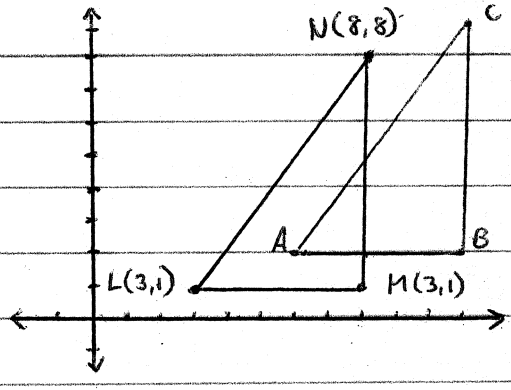
$\angle A \cong \angle S$; $\angle B \cong \angle Q$ by the third angle thm: $\angle C \cong \angle R$

$\angle A + \angle B + \angle C = 180$

$45° + 80° + 5x = 180°$

$5x = 55$; $\boxed{x = 11}$

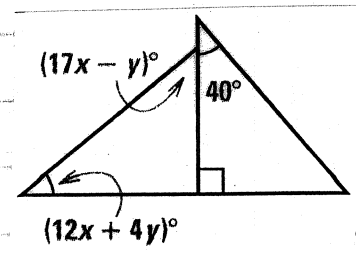
18 Graph the triangle with vertices L(3,1), M(8,1), and N(8,8). Then graph a triangle that is congruent to $\triangle LMN$



There are many (infinite) correct answers. $\triangle ABC \cong \triangle LMN$ and is example of a Slide Translation. Others are Flip and Rotational.

ALGEBRA. Find the values of x and y.

19.



$12x + 4y = 40$

$4y = 40 - 12x$

$y = 10 - 3x$

$(17x - y) + (12x + 4y) + 90^\circ = 180^\circ$

$17x - (10 - 3x) + 40^\circ + 90^\circ = 180^\circ$

$20x + 120^\circ = 180^\circ$

$20x = 60^\circ$

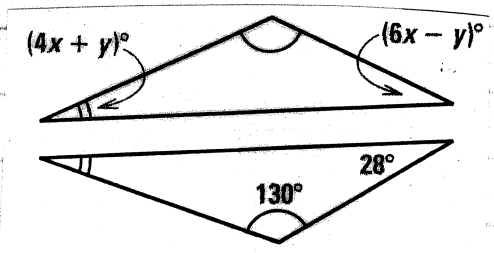
$\boxed{x = 3}$

$y = 10 - 3(3)$

$y = 10 - 9$

$\boxed{y = 1}$

20.



$6x - y = 28^\circ$

$-y = -6x + 28$

$y = 6x - 28$

$(4x + y) + 130^\circ + (6x - y) = 180^\circ$

$4x + (6x - 28) + 130^\circ + 28^\circ = 180^\circ$

$10x + 130 = 180$

$10x = 50$

$\boxed{x = 5}$

$y = 6(5) - 28$

$y = 30 - 28$

$\boxed{y = 2}$