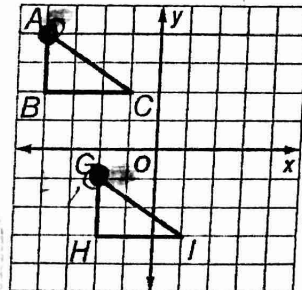


# Lesson 2 Homework Practice

## Congruence

1. Triangles  $ABC$  and  $GHI$  are congruent. Write congruence statements comparing the corresponding parts. Then determine which transformation(s) map  $\triangle ABC$  onto  $\triangle GHI$ .



①

$$\begin{aligned} \angle A &\cong \angle G \\ \angle B &\cong \angle H \\ \angle C &\cong \angle I \\ \overline{AB} &\cong \overline{GH} \\ \overline{BC} &\cong \overline{HI} \\ \overline{CA} &\cong \overline{IG} \end{aligned}$$

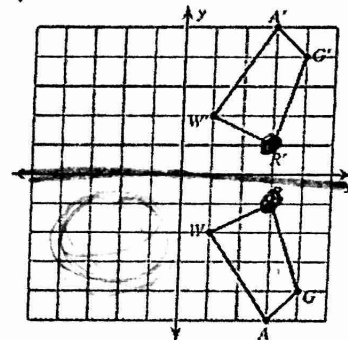
②

Translate  
 $(x, y) \rightarrow (x+2, y-5)$

check

$$A(-4, 4) \rightarrow G(-2, -1) \checkmark$$

2. Quadrilateral  $GAWR$  and  $G'A'W'R'$  are congruent. Write congruence statements comparing the corresponding parts. Then determine which transformation(s) map Quad  $GAWR$  onto Quad  $G'A'W'R'$ .



①

$$\begin{aligned} \angle G &\cong \angle G' \\ \angle A &\cong \angle A' \\ \angle W &\cong \angle W' \\ \angle R &\cong \angle R' \\ \overline{GA} &\cong \overline{G'A'} \\ \overline{AW} &\cong \overline{A'W'} \\ \overline{WR} &\cong \overline{W'R'} \\ \overline{RG} &\cong \overline{R'G'} \end{aligned}$$

②

Reflect  
 across  
 x-axis

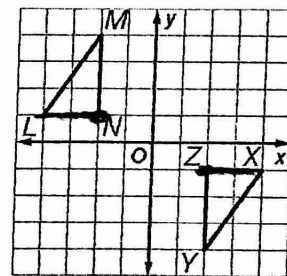
$$(x, y) \rightarrow (x, -y)$$

$$(x, -y)$$

check

$$R(3, -1) \rightarrow R'(3, 1) \checkmark$$

3. Triangles  $LMN$  and  $XYZ$  are congruent. Write congruence statements comparing the corresponding parts. Then determine which transformation(s) map  $\triangle LMN$  onto  $\triangle XYZ$ .



$$\begin{aligned} \angle L &\cong \angle X \\ \angle M &\cong \angle Y \\ \angle N &\cong \angle Z \\ \rightarrow \overline{LM} &\cong \overline{XY} \\ \overline{MN} &\cong \overline{YZ} \\ \overline{NL} &\cong \overline{ZX} \end{aligned}$$

③ Rotation  
 $180^\circ$

$$(x, y) \rightarrow (-x, -y)$$

$$(-x, -y)$$

check

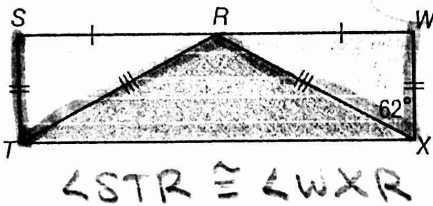
$$N(-2, 1) \rightarrow Z(2, -1)$$

# Lesson 2 Problem-Solving Practice

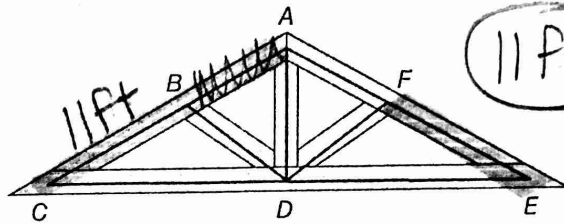
$\triangle ABC \cong \triangle MNO$

## Congruence

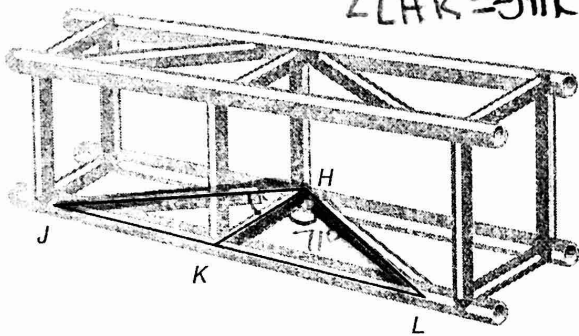
1. In the quilt design shown,  $\triangle RST \cong \triangle RWX$ . What is the measure of  $\angle STR$ ?



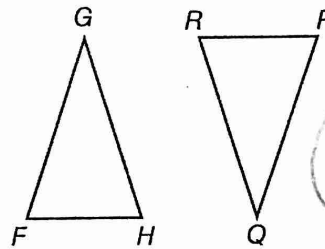
2. In the roof construction shown,  $\triangle CBD \cong \triangle FED$ . If  $CB = 11$  feet, what is  $EF$ ?



3. In the stage truss shown below,  $\triangle HJK \cong \triangle HLK$ . If  $\angle LHK = 71^\circ$ , what is the measure of  $\angle JHK$ ?



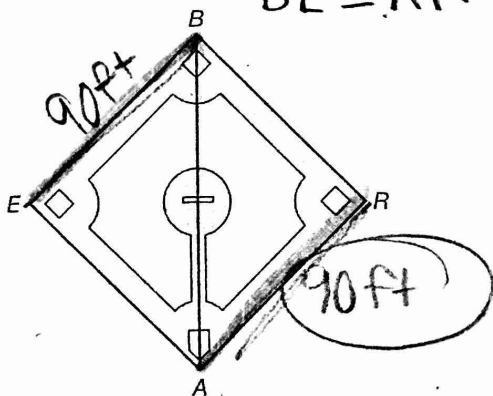
4. Triangle  $FGH$  is congruent to  $\triangle PQR$ .  
 ① Write congruence statements comparing the corresponding parts. Then determine which  
 ② transformations map  $\triangle FGH$  onto  $\triangle PQR$ .



①

$$\begin{aligned} \angle F &\cong \angle P & \overline{FG} &\cong \overline{PQ} \\ \angle G &\cong \angle Q & \overline{GH} &\cong \overline{QR} \\ \angle H &\cong \angle R & \overline{FH} &\cong \overline{PR} \end{aligned}$$

5. In the baseball diamond shown,  $\triangle BEA \cong \triangle ARB$ . If  $BE = 90$  feet, what is  $AR$ ?



6. Parallelograms  $ABCD$  and  $FGHI$  are congruent. If  $AB = 64$  centimeters, what is  $FG$ ?

