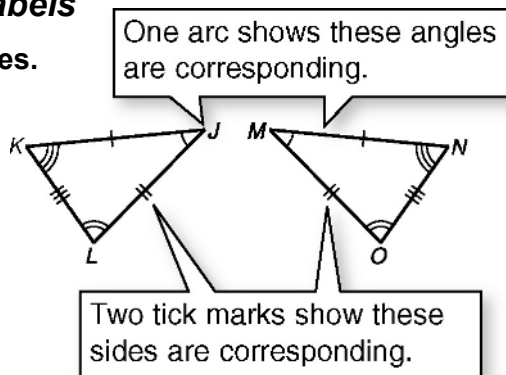


LESSON **Reading Strategies**

4-3 **Understand Labels**

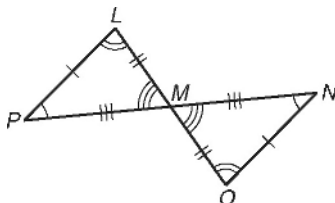
Examine these two triangles.



1. How can you tell which angle corresponds to $\angle L$?

2. How can you tell which side corresponds to \overline{KL} ?

Answer the following questions based on these two triangles.



3. What angle corresponds to $\angle LMP$?

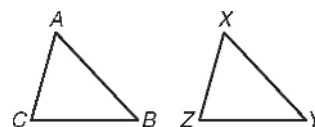
4. What angle corresponds to $\angle P$?

5. What side corresponds to \overline{PL} ?

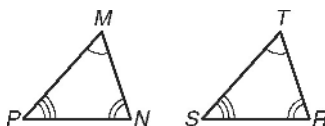
6. What side corresponds to \overline{LM} ?

These two triangles are congruent. This statement can be written as follows: $\triangle ABC \cong \triangle XYZ$.

Labeling triangles in this way is meaningful because it states that in these two triangles, $\angle A \cong \angle X$; $\angle B \cong \angle Y$; and $\angle C \cong \angle Z$. The order in which the letters are placed tells which angles are congruent.



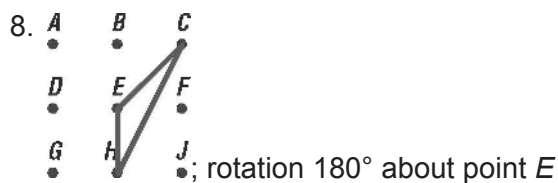
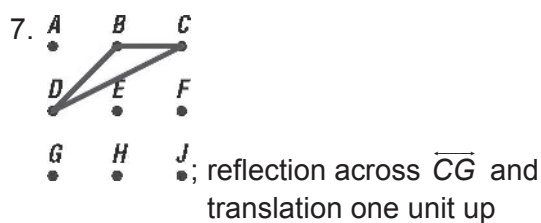
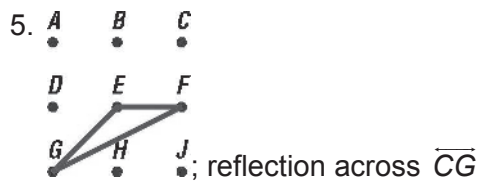
Answer the following questions based on these two triangles.



7. Write a congruence statement for these two triangles.

8. How did you determine the order of the letters in your congruence statement?

4. glide reflection (reflection across \overline{DF} and translation one unit right)



9. 15: $\triangle ADH$, $\triangle GDB$, $\triangle CFH$, $\triangle JFB$, $\triangle BEJ$, $\triangle HEA$, $\triangle HEC$, $\triangle ABF$, $\triangle CBD$, $\triangle GHF$, $\triangle JHD$, $\triangle DEC$, $\triangle DEJ$, $\triangle FEA$, $\triangle FEG$

10. There are 76 triangles in all.

Problem Solving

- $x = 15.5$
- 8 ft
- $x = 19$
- 72°
- B
- J
- C

Reading Strategies

- $\angle O$ does because they both have two arcs.
- It is side \overline{NO} because both sides have three tick marks.
- $\angle OMN$
- $\angle N$
- \overline{NO}
- \overline{OM}
- $\triangle MNP \cong \triangle TRS$
- Corresponding angles of congruent triangles have the same measure, and the order of the letters indicates which angles are congruent.

5-1 TRIANGLE CONGRUENCE: SSS AND SAS

Practice A

- $\angle P$
- $\angle R$
- $\angle Q$
- SSS
- SAS
- $\angle G$; $\angle I$; SAS
- \overline{JI} ; \overline{HI} ; \overline{JH} ; SSS
-

Statements	Reasons
1. a. $\overline{BA} \cong \overline{BD}$, $\overline{BE} \cong \overline{BC}$	1. Given
2. b. $\angle ABE \cong \angle DBC$	2. Vert. \angle Thm.
3. $\triangle ABE \cong \triangle DBC$	3. c. SAS

Practice B

- neither
- SAS
- neither
- SSS
- 1.8
- 17
- Possible answer:

Statements	Reasons
1. C is the midpoint of \overline{AD} and \overline{BE} .	1. Given
2. $AC = CD$, $BC = CE$	2. Def. of mdpt.
3. $\overline{AC} \cong \overline{CD}$, $\overline{BC} \cong \overline{CE}$	3. Def. of \cong segs.
4. $\angle ACB \cong \angle DCE$	4. Vert. \angle Thm.
5. $\triangle ABC \cong \triangle DEC$	5. SAS

Practice C

- any side length
- lengths of two adjacent sides
- any angle measure and any side length
- any angle measure and the lengths of two adjacent sides
- Yes; possible answer: The diagonal is the hypotenuse of an isosceles right triangle. The length of one side can be found by using the Pythagorean Theorem, and knowing one side is enough to draw a specific square.
- 540 ft^2