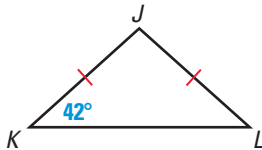


# Chapter Standardized Test

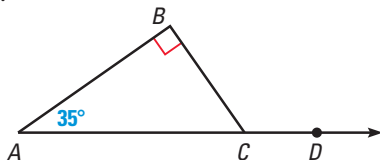
**TEST-TAKING STRATEGY** Avoid spending too much time on one question. Skip questions that are too difficult for you, and spend no more than a few minutes on each question.

1. **MULTIPLE CHOICE** What is the measure of  $\angle J$ ?



- (A)  $42^\circ$
- (B)  $90^\circ$
- (C)  $96^\circ$
- (D)  $138^\circ$
- (E) cannot be determined

2. **MULTIPLE CHOICE** What is the measure of  $\angle BCD$ ?



- (A)  $35^\circ$
- (B)  $55^\circ$
- (C)  $90^\circ$
- (D)  $125^\circ$
- (E) cannot be determined

3. **QUANTITATIVE COMPARISON** Four congruent equilateral triangles form the figures below.

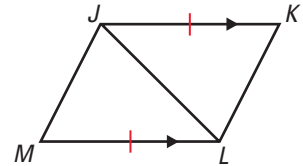
Column A	Column B
perimeter	perimeter

Choose the statement that is true.

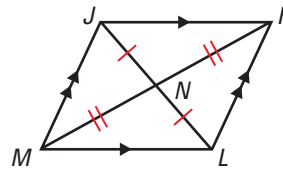
- (A) The perimeter in column A is greater.
- (B) The perimeter in column B is greater.
- (C) The two perimeters are equal.
- (D) The relationship cannot be determined from the given information.

4. **MULTIPLE CHOICE** Which postulate or theorem can be used to prove that  $\triangle JML \cong \triangle LKJ$ ?

- (A) SSS
- (B) SAS
- (C) ASA
- (D) AAS
- (E) none of the above



5. **MULTIPLE CHOICE** In figure  $JKLM$ ,  $\overline{JM} \parallel \overline{KL}$ ,  $\overline{JK} \parallel \overline{ML}$ , and  $N$  is the midpoint of  $\overline{JL}$  and  $\overline{MK}$ . Which statement or statements can be proved to be true?



- I.  $\triangle JNM \cong \triangle LNK$       II.  $\triangle JNK \cong \triangle LNM$

- III.  $\triangle JMK \cong \triangle JKL$

- (A) I only
- (B) I and II only
- (C) II and III only
- (D) I, II, and III
- (E) None are true.

6. **MULTIPLE CHOICE** You are given the following information about  $\triangle PQR$  and  $\triangle XYZ$ .

- I.  $\angle P \cong \angle X$       II.  $\angle Q \cong \angle Y$

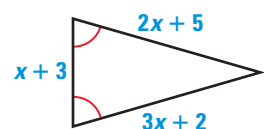
- III.  $\overline{PQ} \cong \overline{XY}$       IV.  $\overline{QR} \cong \overline{YZ}$

Which combination *cannot* be used to prove that  $\triangle PQR \cong \triangle XYZ$ ?

- (A) I, II, and III
- (B) II, III, and IV
- (C) I, III, and IV
- (D) I, II, and IV
- (E) All combinations can be used.

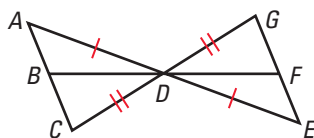
7. **MULTIPLE CHOICE** What is the value of  $x$ ?

- (A)  $\frac{3}{5}$
- (B) 3
- (C) 6
- (D) 8
- (E) 55



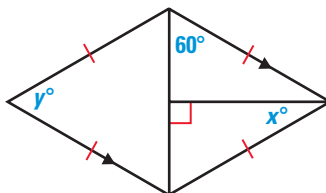
8. **MULTIPLE CHOICE** You want to prove that  $\overline{DB} \cong \overline{DF}$ . As a first step, which pair of triangles would you prove congruent?

- (A)  $\triangle ADB$  and  $\triangle GFD$   
 (B)  $\triangle ADB$  and  $\triangle EDF$   
 (C)  $\triangle BDC$  and  $\triangle FDG$   
 (D)  $\triangle ADC$  and  $\triangle EDG$   
 (E)  $\triangle ABD$  and  $\triangle EFD$



9. **MULTIPLE CHOICE** Use the diagram to determine which statement is true.

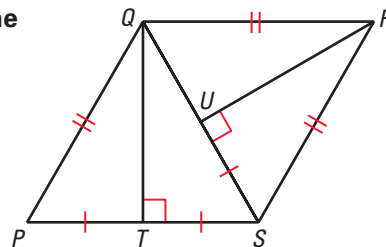
- (A)  $x = 30$  and  $y = 60$   
 (B)  $x = 60$  and  $y = 60$   
 (C)  $x = 30$  and  $y = 30$   
 (D)  $x = 60$  and  $y = 30$   
 (E)  $x = 60$  and  $y = 90$



**MULTI-STEP PROBLEM** In Exercises 10–13, use the diagram and the information below.

**GIVEN** ▶  $\overline{PT} \cong \overline{ST} \cong \overline{SU}$ ,  
 $\overline{QP} \cong \overline{RQ} \cong \overline{RS}$ ,  
 $\overline{QT} \perp \overline{PS}$ ,  $\overline{RU} \perp \overline{QS}$

10. Show that  $\triangle RUS \cong \triangle RUQ$ .  
 11. Show that  $\triangle QTP \cong \triangle QTS$ .  
 12. Use your answers to Exercises 10 and 11 to show that  $\triangle PQS \cong \triangle QRS$ .  
 13. Classify  $\triangle RQS$  and  $\triangle PQS$ , using the most specific names you can. Explain your answers.



**MULTI-STEP PROBLEM** In Exercises 14–19, use figure ABCD.

14. On graph paper, sketch figure ABCD.  
 15. Draw diagonal  $\overline{AC}$ .  
 16. Is  $\triangle ABC \cong \triangle CDA$ ? Justify your answer.  
 17. What kind of triangles are  $\triangle ABC$  and  $\triangle CDA$ ?  
 18. Sketch diagonal  $\overline{BD}$ . What kind of triangles are  $\triangle BCD$  and  $\triangle DAB$ ?  
 19. **Writing** A rhombus is a figure with four congruent sides. Figure ABCD is an example of a rhombus. Can you *always* draw a diagonal in any given rhombus so that the two triangles formed are isosceles? Explain.

