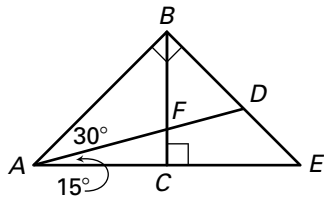


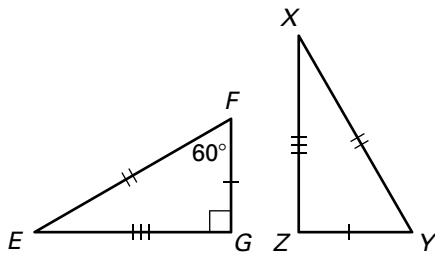
CHAPTER 4 **Standardized Test**
For use after the chapter "Congruent Triangles"

Multiple Choice

In Exercises 1 and 2, use the figure.

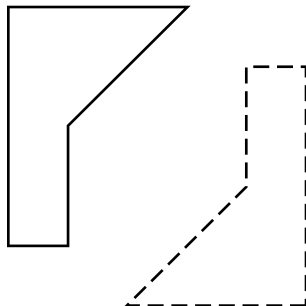


- Which triangle is obtuse?
 (A) $\triangle ABC$ (B) $\triangle ABD$
 (C) $\triangle ADE$ (D) $\triangle BCE$
- Which triangle is acute?
 (A) $\triangle AFC$ (B) $\triangle BFD$
 (C) $\triangle ABF$ (D) $\triangle ABE$
- Given $\triangle EFG \cong \triangle XYZ$, find $m\angle X$.



- (A) 45° (B) 60° (C) 90° (D) 30°
- The sum of the measures of the interior angles of a triangle is _____.
 (A) 180° (B) 360° (C) 90° (D) 270°
 - What single rigid motion can move the solid figure onto the dashed figure?

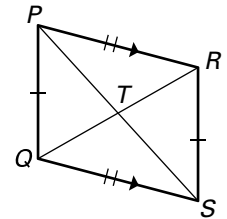
- (A) reflection
 (B) rotation
 (C) translation
 (D) dilation



- If three sides of one triangle are congruent to three sides of a second triangle, then the two triangles are _____.
 (A) equilateral (B) congruent
 (C) acute (D) scalene

- Which statement can you *not* conclude from the diagram?

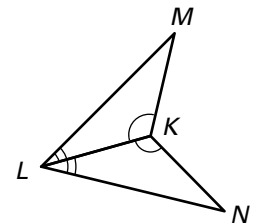
- (A) $\triangle QPS \cong \triangle SPR$
 (B) $\triangle PQR \cong \triangle QRS$
 (C) $\triangle QPT \cong \triangle PTR$
 (D) $\overline{PQ} \cong \overline{RS}$



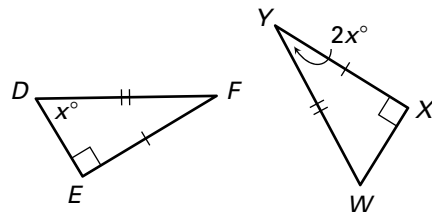
- In a right triangle, the sides adjacent to the right angle are called the legs. The side opposite the right angle is called the _____.
 (A) transversal (B) diagonal
 (C) hypotenuse (D) diameter

- To prove $\triangle KLM \cong \triangle KLN$, which triangle congruence postulate could you use?

- (A) AAS
 (B) SSS
 (C) SAS
 (D) ASA



- Given $\triangle DEF \cong \triangle WXY$, use the Hypotenuse-Leg Congruence Theorem to find x .

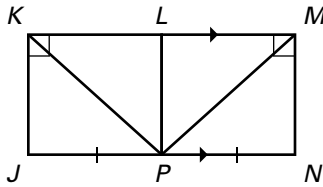


- (A) 30 (B) 45 (C) 60 (D) 90

CHAPTER 4

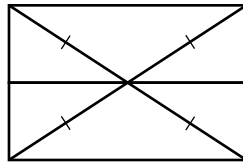
Standardized Test *continued*
For use after the chapter "Congruent Triangles"

11. Use the diagram to determine which statement is true.



- (A) $\overline{KJ} \cong \overline{KL}$ (B) $\angle KJP \cong \angle MNP$
 (C) $\angle KLP \cong \angle MLP$ (D) $\overline{LP} \perp \overline{JN}$
12. The angle formed by the legs of an isosceles triangle is called the ? .
- (A) vertex angle (B) base angle
 (C) isosceles angle (D) leg angle
13. How many isosceles triangles can be found?

- (A) 2
 (B) 0
 (C) 6
 (D) 4

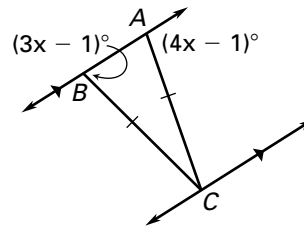


14. Which of the following is *not* a type of congruence transformation?
- (A) translation (B) rotation
 (C) refraction (D) reflection

15. Given a triangle with vertices $A(4, -1)$, $B(-3, 0)$, and $C(7, 2)$, which points represent a reflection of $\triangle ABC$ in the y -axis?
- (A) $A(-4, -1)$, $B(3, 0)$, $C(-7, 2)$
 (B) $A(4, 1)$, $B(-3, 0)$, $C(7, -2)$
 (C) $A(-4, 1)$, $B(3, 0)$, $C(-7, -2)$
 (D) $A(-1, 4)$, $B(0, -3)$, $C(2, 7)$

Gridded Answer

16. Find the value of x .



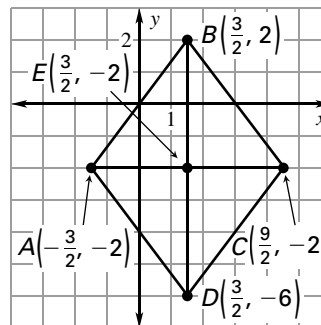
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Short Response

17. Match the theorem with the correct pair of congruent triangles.
- a. ASA 1.
- b. SAS 2.
- c. HL 3.
- d. SSS 4.
- e. AAS 5.

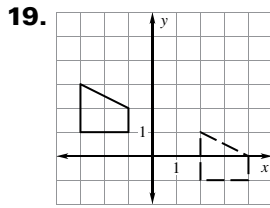
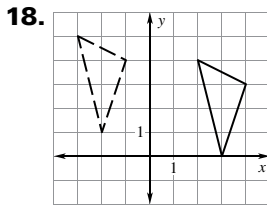
Extended Response

18. Use the diagram.



- a. Find all segments congruent to \overline{AB} .
Explain.
- b. Find all triangles congruent to $\triangle ABC$.
Explain.
- c. Find all angles congruent to $\angle BEC$.
Explain.
- d. Find all right triangles. *Explain.*

continued



20. no 21. yes; 90° clockwise 22. reflect in the x -axis, then reflect in the y -axis or reflect in the y -axis, then reflect in the x -axis

Standardized Test

1. C 2. B 3. D 4. A 5. B 6. B 7. C 8. C
 9. D 10. A 11. B 12. A 13. D 14. C
 15. A 16. $x = 26$ 17. $a-4$; $b-2$; $c-5$; $d-1$; $e-3$
 18. a. Using the distance formula, $\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$. b. Using the distance formula and SSS, $\triangle ABC \cong \triangle ADC$.
 c. Using the distance formula and SSS, $\triangle BEC \cong \triangle BEA \cong \triangle DEC \cong \triangle DEA$.
 d. Using slopes and definition of perpendicular lines, and definition of a right triangle, $\triangle AEB$, $\triangle CEB$, $\triangle CED$, and $\triangle AED$ are right triangles.

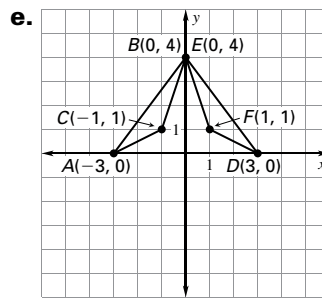
SAT/ACT Chapter Test

1. C 2. C 3. B 4. A 5. E 6. D 7. D 8. B
 9. C 10. B 11. B 12. E 13. 3 14. 7 15. 45

Alternative Assessment

1. Complete answers should include: a list of three of the five methods presented in Chapter 4 (SSS, ASA, HL, SAS, AAS); an explanation of when to use each of the three chosen methods (see the Concept Summary in Lesson 4.5); an example triangle pair for each chosen method that illustrates the student's explanation of when to use the method.

2. a. $\triangle ABD$ and $\triangle CBD$ are scalene right triangles; $\triangle ABC$ is an acute isosceles triangle; $\triangle EFG$ is an obtuse scalene triangle b. It is given that $\triangle ABD$ and $\triangle CBD$ are right triangles and $\overline{AB} \cong \overline{CB}$. By the Reflexive Property, $\overline{BD} \cong \overline{BD}$. So, by the HL Congruence Theorem, $\triangle ABD \cong \triangle CBD$. c. $\angle BAD \cong \angle BCD$; $\angle ABD \cong \angle CBD$; $\angle ADB \cong \angle CDB$; $\overline{AB} \cong \overline{CB}$; $\overline{BD} \cong \overline{BD}$; $\overline{AD} \cong \overline{CD}$ d. 114°



f. reflection in y -axis g. *Sample answer:* Use the Distance Formula to find the side lengths of both triangles. Then use the SSS Congruence Postulate.