

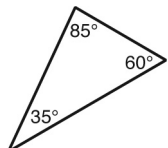
Triangle Congruence

Chapter Test Form B

Circle the best answer.

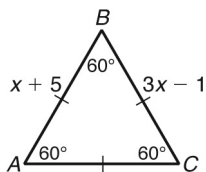
- Describe the transformation M :
 $(x, y) \rightarrow (-x, -y)$.
 A A translation one unit down and one unit to the right.
 B A reflection across the x -axis.
 C A rotation 180° with center of rotation $(0, 0)$.
 D A dilation with a scale factor -1 and center $(0, 0)$.

2. Classify the triangle.



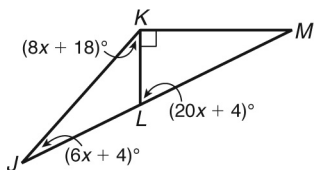
- F isosceles acute
- G isosceles obtuse
- H scalene acute
- J scalene obtuse

3. What is the length of side \overline{BC} ?



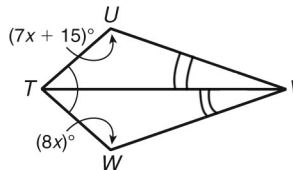
- A 3
- B 8
- C 10
- D 24

Use the figure for Exercises 4 and 5.



- What is $m\angle KLM$?
 F 3 H 42
 G 22 J 64
- What is $m\angle M$?
 A 0.2 C 26
 B 4 D 64

6. What is the $m\angle U$?



- F 5
- G 15
- H 40
- J 120

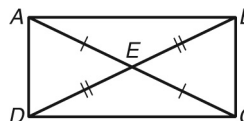
7. Two congruent triangles have the following corresponding parts:
 $\overline{RS} \cong \overline{UV}$, $\overline{RT} \cong \overline{UW}$, and $\angle R \cong \angle U$.
 Which is NOT necessarily a correct congruence statement?

- A $nRST \cong nUVW$
- B $nSTR \cong nVWU$
- C $nTRS \cong nVWU$
- D $nTRS \cong nWUV$

8. $nKLM \cong nRST$. $m\angle L = (3x + 15)^\circ$ and $m\angle S = (6x + 3)^\circ$. What is the value of x ?

- F 2
- G 4
- H 6
- J 27

Use the figure for Exercises 9–12.



- If $AD = 5y + 7$ and $BC = 7y - 3$, what must the value of y be to prove $nAED \cong nCEB$ by the SSS Postulate?
 A 2 C 17
 B 5 D 32
- What postulate or theorem justifies the congruence statement $nABE \cong nCDE$?
 F SSS H ASA
 G SAS J AAS

Triangle Congruence

Chapter Test Form B continued

11. If $\angle B$ and $\angle C$ are right angles, what additional congruence statement would allow you to prove $nDCB \cong nABC$ by the ASA postulate?

- A $\angle DBC \cong \angle ACB$
- B $\angle BDC \cong \angle CAB$
- C $\overline{AB} \cong \overline{DC}$
- D $\overline{AC} \cong \overline{DB}$

12. If $\angle A$ and $\angle C$ are right angles and $\overline{AD} \cong \overline{BC}$, what postulate or theorem justifies the congruence statement $nBCD \cong nDAB$?

- F SAS
- G ASA
- H AAS
- J HL

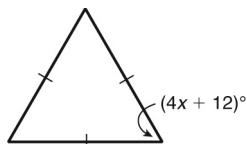
13. A right triangle with leg lengths of 4 and 3 units has to be positioned in the coordinate plane to write a coordinate proof. Which set of coordinates would make the proof easier to complete?

- A (4, 0), (0, 0), (4, 3)
- B (3, 0), (0, 0), (-4, 0)
- C (0, 4), (0, 0), (-3, 0)
- D (0, 4), (0, 0), (3, 0)

14. Which of the following would you find most useful in giving a coordinate proof that two triangles are congruent by SSS?

- F Distance Formula
- G Midpoint Formula
- H CPCTC
- J Slope Formula

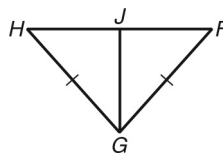
15. What is the value of x ?



- A 12
- B 19.5
- C 18
- D 60

Use the partially completed two-column proof for Exercises 16–18.

Given: \overline{GJ} bisects $\angle FGH$, $\overline{FG} \cong \overline{HG}$



Prove: $\overline{FJ} \cong \overline{HJ}$

Proof:

| Statements | Reasons |
|---|------------------------------|
| 1. \overline{GJ} bisects $\angle FGH$. | 1. Given |
| 2. $\angle FGJ \cong \angle HGJ$ | 2. Def. of \angle bisector |
| 3. $\overline{FG} \cong \overline{HG}$ | 3. Given |
| 4. $\angle F \cong \angle H$ | 4. _____ ? _____ |
| 5. $\triangle FGJ \cong \triangle HGJ$ | 5. _____ ? _____ |
| 6. $\overline{FJ} \cong \overline{HJ}$ | 6. _____ ? _____ |

16. Which reason belongs in Step 4?

- F Isosc. n Thm.
- G Conv. of Isosc. n Thm.
- H ASA
- J Def. of \angle bisector

17. Which reason belongs in Step 5?

- A Isosc. n Thm.
- B ASA
- C CPCTC
- D HL

18. Which reason belongs in Step 6?

- F Isosc. n Thm.
- G ASA
- H CPCTC
- J Def. of \angle bisector