

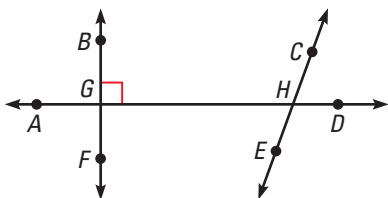
Chapter Standardized Test

TEST-TAKING STRATEGY Make sure that you are familiar with the directions before taking a standardized test. This way, you do not need to worry about the directions during the test.

1. **MULTIPLE CHOICE** What is the contrapositive of “If it is Tuesday, then Marie has soccer practice?”

- (A) If it is not Tuesday, then Marie does not have soccer practice.
- (B) If Marie has soccer practice, then it is Tuesday.
- (C) If Marie does not have soccer practice, then it is not Tuesday.
- (D) Marie has soccer practice if and only if it is Tuesday.
- (E) None of the above.

2. **MULTIPLE CHOICE** Which statement about the diagram is *not* true?



- (A) $\angle GHE$ is adjacent to $\angle CHD$.
- (B) $\overline{BF}$ is perpendicular to $\overline{AH}$.
- (C) $\angle BGH$ and $\angle BGA$ are supplementary.
- (D) $\angle GHC \cong \angle EHD$
- (E) $m\angle BGH = 90^\circ$

3. **QUANTITATIVE COMPARISON** Two quantities are described below.

Column A	Column B
The number of lines that can be drawn through two points.	The number of planes that can be drawn through three noncollinear points.

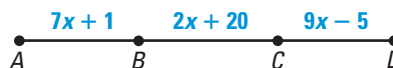
Choose the statement that is true.

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

4. **MULTIPLE CHOICE** “If $m\angle A = 75^\circ$, then $10^\circ + m\angle A = 85^\circ$ ” is an example of the

- (A) Substitution property of equality.
- (B) Addition property of equality.
- (C) Symmetric property of equality.
- (D) Subtraction property of equality.
- (E) Distributive property.

5. **MULTIPLE CHOICE** In the diagram, $\overline{AB} \cong \overline{CD}$. Find the length of $\overline{CA}$.

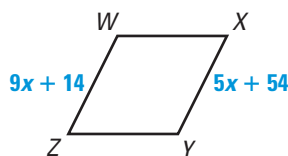


- (A) 22
- (B) 26
- (C) 39
- (D) 44
- (E) 48

6. **MULTIPLE CHOICE** Let p be “there is lightning” and let q be “we cannot go hiking.” What is the converse of $p \rightarrow q$?

- (A) If there is lightning, then we cannot go hiking.
- (B) If we can go hiking, then there is no lightning.
- (C) If we cannot go hiking, then there is lightning.
- (D) If there is no lightning, then we can go hiking.
- (E) None of the above.

7. **MULTIPLE CHOICE** In $WXYZ$, $\overline{WZ} \cong \overline{YZ}$ and $\overline{YX} \cong \overline{YZ}$. What is the value of x ?



- (A) 4
- (B) 9
- (C) 10
- (D) 12
- (E) 16

8. **MULTIPLE CHOICE** Two angles $\angle PQR$ and $\angle RQS$ form a linear pair. If $m\angle PQR = 48^\circ$, what is $m\angle RQS$?

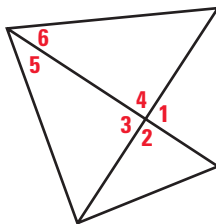
- (A) 42°
- (B) 48°
- (C) 90°
- (D) 132°
- (E) 180°

9. **MULTIPLE CHOICE** Two angles, $\angle 7$ and $\angle 8$, are both complementary to $\angle 9$. If $m\angle 7 = 61^\circ$, what is $m\angle 8$?

(A) 29° (B) 61° (C) 90° (D) 119° (E) 180°

10. **MULTIPLE CHOICE** In the diagram below, $\angle 1 \cong \angle 2$. Which of the following is *not* true?

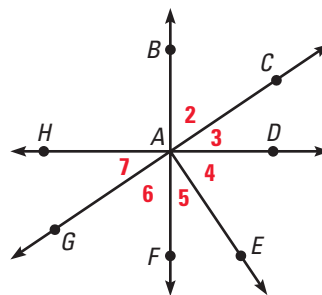
- (A) $\angle 1 \cong \angle 4$
 (B) $m\angle 1 + m\angle 2 = 180^\circ$
 (C) $\angle 1 \cong \angle 3$
 (D) $\angle 2$ and $\angle 4$ are supplementary.
 (E) $m\angle 6 = m\angle 4$



MULTI-STEP PROBLEM In Exercises 11–13, use the diagram. In the diagram, $\overleftrightarrow{BF} \perp \overleftrightarrow{HD}$ and $\overleftrightarrow{GC} \perp \overleftrightarrow{AE}$.

11. Complete each statement.

- a. If $m\angle 3 = 31^\circ$, then $m\angle 5 = ?$.
 b. If $m\angle 5 = 29^\circ$, then $m\angle 4 = ?$.
 c. If $m\angle CAF = 122^\circ$, then $m\angle GAB = ?$.
 d. If $m\angle 7 = 35^\circ$, then $m\angle 3 = ?$.



12. Write a two-column proof that shows $\angle BAH \cong \angle CAE$.

13. Write a paragraph proof that shows $\angle 6 \cong \angle 2$.

MULTI-STEP PROBLEM In Exercises 14–17, use the following information.

The International Space Station (ISS) is a NASA project which will involve about 45 launch missions. The space station is scheduled for completion in early 2004. The diagram shows a portion of the space station. In the diagram, $\overline{AE} \perp \overline{XC}$ and X is the midpoint of $\overline{AE}$.

14. Are $\angle DXC$ and $\angle DXE$ complementary or supplementary?
15. Determine whether there is enough information to prove each of the following. If so, write a plan for the proof.

- a. $\overline{XE} \cong \overline{XC}$
 b. $\angle AXC \cong \angle EXC$
 c. $\overline{EX} \cong \overline{AX}$

16. Tell whether the statement is *true* or *false*.

- a. $m\angle BXD + m\angle BXE = m\angle EXA$
 b. $m\angle AXD + m\angle DXE = m\angle EXA$
 c. $m\angle AXD + m\angle DXB = m\angle EXA$

17. Write a two-column proof to show that $\angle BXA$ and $\angle CXB$ are complementary.

