5 **Chapter 5 Test, Form 2A**

SCORE _____

Assessment

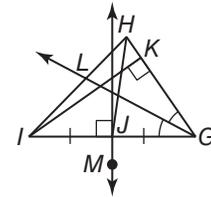*Write the letter for the correct answer in the blank at the right of each question.*

For Questions 1–4, refer to the figure.

1. Name an angle bisector.
   A $\overleftrightarrow{KI}$ B $\overrightarrow{GL}$ C $\overleftrightarrow{JM}$ D $\overline{HJ}$

   1. **B**

2. Name a median.
   F $\overleftrightarrow{KI}$ G $\overrightarrow{GL}$ H $\overleftrightarrow{JM}$ J $\overline{HJ}$

   2. **J**

3. Name an altitude.
   A $\overrightarrow{KI}$ B $\overrightarrow{GL}$ C $\overleftrightarrow{JM}$ D $\overline{HJ}$

   3. **A**

4. Name a perpendicular bisector.
   F $\overleftrightarrow{KI}$ G $\overrightarrow{GL}$ H $\overleftrightarrow{JM}$ J $\overline{HJ}$
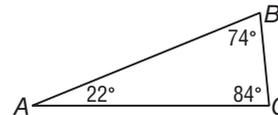
   4. **H**

For Questions 5–7, refer to the figure to determine which is a true statement for the given information.
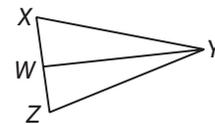
5. $\overline{YW}$ is an angle bisector.
   A $\angle YWZ$ is a right angle.   C $XW = WZ$
   B $\angle XYW \cong \angle ZYW$ D $XY = ZY$

   5. **B**

6. $\overline{YW}$ is an altitude.
   F $\angle YWZ$ is a right angle.   H $XW = WZ$
   G $\angle XYW \cong \angle ZYW$ J $XY = ZY$

   6. **F**

7. $\overline{YW}$ is a median.
   A $\angle YWZ$ is a right angle.   C $XW = WZ$
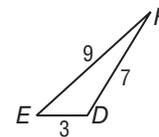   B $\angle XYW \cong \angle ZYW$ D $XY = ZY$

   7. **C**

8. Name the longest side of $\triangle ABC$.
   F $\overline{AB}$ H $\overline{AC}$
   G $\overline{BC}$ J cannot tell

   8. **F**

9. Name the angle with greatest measure in $\triangle DEF$.
   A $\angle D$ C $\angle F$
   B $\angle E$ D cannot tell

   9. **A**

10. Which theorem compares the sides of the same triangle?
    F Hinge Theorem   H Exterior Angle Inequality Theorem
    G Converse of the Hinge Theorem   J Triangle Inequality Theorem

    10. **J**

11. Tisha wants to plant a garden in the widest corner of her triangular backyard. The backyard is bordered by the back of the house that is 50 feet long, fence A that is 27 feet long, and fence B that is 35 feet long. Which corner has the widest measure?
    A corner between fences A and B
    B all three corners have the same measure
    C corner between the back of the house and fence A
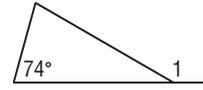   D corner between the back of the house and fence B

    11. **A**

5   **Chapter 5 Test, Form 2A** *(continued)*

12. Find the possible values for $m\angle 1$.

   F $90 > m\angle 1 > 74$ **H** $0 < m\angle 1 < 74$

   G $180 > m\angle 1 > 74$ **J** $m\angle 1 = 106$ 12. **G**

13. Find the value of x.

   A   9   **C**   27
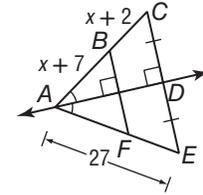
   B   11   **D**   32   13. **A**

14. Which is another name for an indirect proof?

   F   proof by deduction   **H**   proof by inverse

   G   proof by converse   **J**   proof by contradiction   14. **J**

15. Choose the assumption you would make to start an indirect proof of $x < 2$.

   A $x > 2$ **B** $x \geq 2$ **C** $x = 2$ **D** $x \leq 2$ 15. **B**

16. Choose the assumption you would make to start an indirect proof.

   Given: $\angle 1$ is an exterior angle of $\triangle ABC$.

   Prove: $m\angle 1 = m\angle B + m\angle C$

   F $\angle 1$ is not an exterior angle of $\triangle ABC$.

   G $\angle 1$ is an interior angle of $\triangle ABC$.

   H $m\angle 1 \neq m\angle B + m\angle C$

   J $m\angle 1 = m\angle B$ 16. **H**

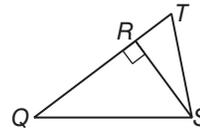**17.** Which of the following sets of numbers can be the lengths of the sides of a triangle?

   A   6, 6, 12   **B**   6, 7, 13   **C** $\sqrt{2}, \sqrt{5}, \sqrt{15}$ **D**   2.6, 8.1, 10.2   17. **D**

18. What is the relationship between the lengths of $\overline{QS}$ and $\overline{RS}$?

   F $QS = RS$ **H** $QS > RS$

   G $QS < RS$ **J**   cannot tell   18. **H**
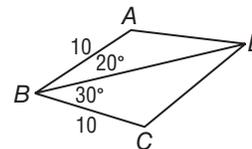
19. What is the relationship between the lengths of $\overline{DC}$ and $\overline{AD}$?

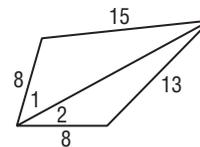   **A** $DC < AD$ **C** $DC = AD$

   B $DC > AD$ **D**   cannot tell   19. **B**

20. What is the relationship between the measures of $\angle 1$ and $\angle 2$?

   F $m\angle 1 = m\angle 2$ **H** $m\angle 1 > m\angle 2$

   G $m\angle 1 < m\angle 2$ **J**   cannot tell   20. **H**

   Bonus $\overline{YW}$ bisects $\angle XYZ$ in $\triangle XYZ$. Point W is on $\overline{XZ}$.
If $m\angle XYW = 2x + 18$ and $m\angle ZYW = x^2 - 5x$,
find the possible value(s) of x.   B: **9, −2**