

Geometry w/ Applications
Cumulative Review (Ch 1-6)

Name _____

1. **Multiple Choice** \overleftrightarrow{XY} and \overleftrightarrow{WY} intersect at _____.

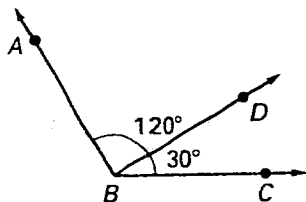
(A) point X (B) point Y
 (C) point W (D) \overline{WX}
 (E) none of these

2. **Multiple Choice** Point B is between A and C. Use the Segment Addition Postulate to solve for x when $AB = 5x + 2$, $AC = 12x + 7$, and $BC = 26$.

(A) 1 (B) 2 (C) 3
 (D) 4 (E) 5

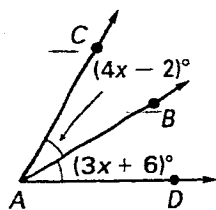
3. **Multiple Choice** Find the measure of $\angle ABD$.

(A) 30°
 (B) 60°
 (C) 90°
 (D) 120°
 (E) 150°



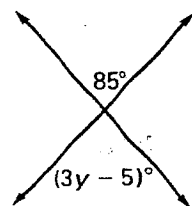
4. **Multiple Choice** \overrightarrow{AB} bisects $\angle CAD$. Find the value of x.

(A) 2
 (B) 4
 (C) 6
 (D) 8
 (E) 10



5. **Multiple Choice** Find the value of y.

(A) 30
 (B) 35
 (C) 85
 (D) 22
 (E) 55



6. **Multiple Choice** What is the converse of "If there is ice on the lake, then it is cold?"

(A) If there is not ice on the lake, then it is not cold.
 (B) If it is cold, then there is ice on the lake.
 (C) If it is not cold, then there is not ice on the lake.
 (D) There is ice on the lake if and only if it is cold.
 (E) none of these

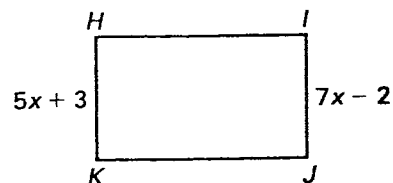
7. **Multiple Choice** Which of the following is true about the conditional statement. "If $m\angle 1 = 40^\circ$ and the $m\angle 2 = 50^\circ$, then the angles are complementary."

I. The statement is true.
 II. The biconditional is true.
 III. The converse is true.

(A) I (B) II (C) III
 (D) I and II (E) I and III

8. **Multiple Choice** In HJK , $\overline{HK} \cong \overline{IJ}$. What is the value of x?

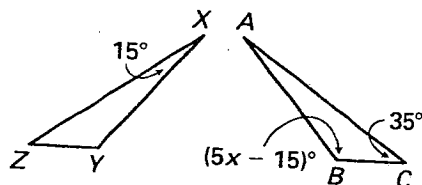
(A) 1
 (B) 2
 (C) 2.5
 (D) 3
 (E) 3.5



9. **Multi-Step Problem** Let p be "You stay up late," q be "You are tired" and r be "You are cranky."

a. Write $p \rightarrow q$ in words.
 b. Write $q \rightarrow r$ in words.
 c. Write the contrapositive of $p \rightarrow q$ in words and symbols.
 d. **Writing** Use the Law of Syllogism and the statements from parts (a) and (b) to write a new conditional statement.

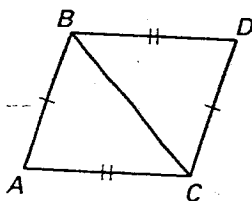
18. **Multiple Choice** Given $\angle X \cong \angle A$ and $\angle Z \cong \angle C$, find the value of x .



- (A) 25 (B) 27 (C) 29
(D) 30 (E) 35

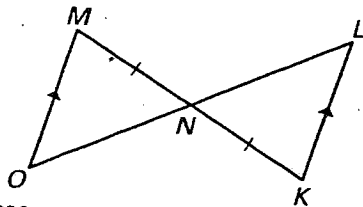
19. **Multiple Choice** Which postulate or theorem can be used to prove that $\triangle ABC \cong \triangle DCB$?

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



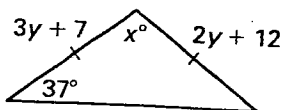
20. **Multiple Choice** Which postulate or theorem can be used to prove that $\triangle MNO \cong \triangle KNL$ if $\overleftrightarrow{MO} \parallel \overleftrightarrow{LK}$?

- (A) SSS
(B) SAS
(C) HL
(D) AAS
(E) none of these



21. **Multiple Choice** What are the values of x and y ?

- (A) $x = 37, y = 5$
(B) $x = 106, y = 5$
(C) $x = 54, y = 4$
(D) $x = 106, y = 19$
(E) $x = 37, y = 19$

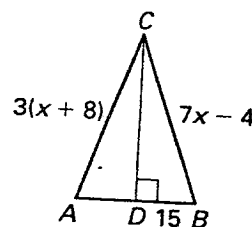


22. **Multiple Choice** A right triangle has legs of 24 units and 18 units. The length of the hypotenuse is $\underline{\hspace{1cm}}$.

- (A) 15 units (B) 30 units
(C) 45 units (D) 15.9 units
(E) 32 units

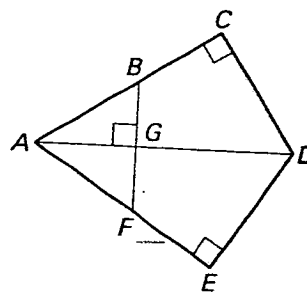
23. **Multiple Choice** In the diagram, \overrightarrow{CD} is the perpendicular bisector of \overline{AB} . What is the value of x ?

- (A) 2.43
(B) 3
(C) 2.5
(D) 2
(E) 7



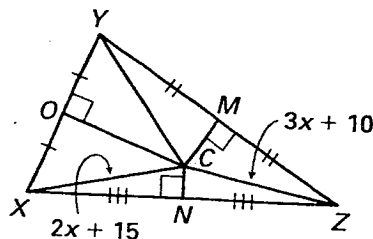
24. **Multiple Choice** In the diagram, \overrightarrow{AD} bisects $\angle CAE$. Which statements below are true?

- I. $\overline{BG} \cong \overline{GF}$
II. $\overline{BC} \cong \overline{FE}$
III. $\overline{CD} \cong \overline{DE}$
(A) I
(B) II
(C) III
(D) I and III
(E) none of these

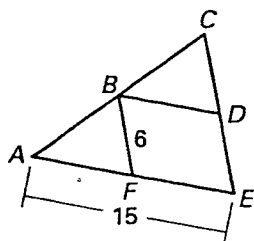


25. **Multiple Choice** In the diagram, C is the circumcenter of $\triangle XYZ$. Find the value of XC .

- (A) 1
(B) 2
(C) 3
(D) 4
(E) 5

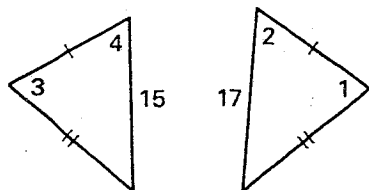


26. **Multiple Choice** In the diagram, \overline{BD} and \overline{BF} are midsegments of $\triangle ACE$. Find BD and CE .



- (A) $BD = 7.5, CE = 18$
 (B) $BD = 7.5, CE = 6$
 (C) $BD = 7.5, CE = 12$
 (D) $BD = 15, CE = 6$
 (E) $BD = 8, CE = 12$

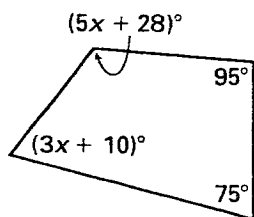
27. **Multiple Choice** Use the Hinge Theorem and the diagrams below to choose the statement which must be true.



- (A) $m\angle 1 > m\angle 2$ (B) $m\angle 1 < m\angle 3$
 (C) $m\angle 1 > m\angle 3$ (D) $m\angle 2 < m\angle 4$
 (E) $m\angle 4 > m\angle 2$

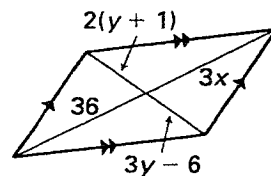
28. **Multiple Choice** Find the value of x .

- (A) 15
 (B) 16
 (C) 18
 (D) 19
 (E) 21



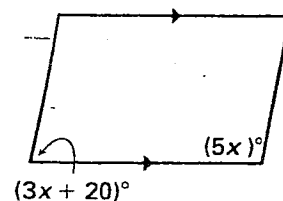
29. **Multiple Choice** What are the values of x and y ?

- (A) $x = 12, y = 8$
 (B) $x = 10, y = 8$
 (C) $x = 12, y = 4$
 (D) $x = 8, y = 4$
 (E) $x = 10, y = 7$



30. **Multiple Choice** What value of x will make the quadrilateral a parallelogram?

- (A) 5
 (B) 10
 (C) 15
 (D) 20
 (E) 25



31. **Multiple Choice** The perimeter of a square is 68 m. If one side is represented by $3x + 2$, what is the value of x ?

- (A) 3 (B) 5 (C) 4
 (D) 6 (E) 10

Quantitative Comparison In Exercises 32 and 33, choose the statement below that is true about the given statement.

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

Column A	Column B
32. The area of $ABCD$	The area of $EFGH$
33. The perimeter of $ABCD$	The perimeter of $EFGH$

Cumulative Review

Chapters 1-6

1. B 2. C 3. C 4. D 5. A 6. B
7. A 8. C 9. a. If you stay up late, then you are tired. b. If you are tired, then you are cranky. c. $\sim q \rightarrow \sim p$; if you are not tired, then you did not stay up late. d. If you stay up late, then you are cranky. 10. C 11. E 12. D
13. B 14. C 15. A 16. B 17. D 18. C
19. A 20. D 21. B 22. B 23. E 24. D
25. E 26. C 27. C 28. D 29. A 30. D
31. B 32. B 33. B