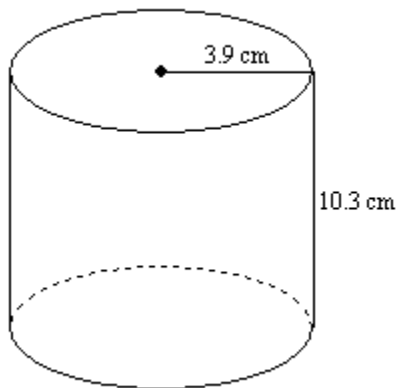Name: _____ Class: _____ Date: _____

Geometry Chapter 5 Cumulative Review

Indicate the answer choice that best completes the statement or answers the question.
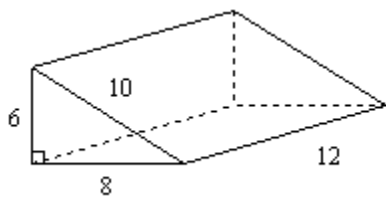
Find the volume of the solid.

1

A. 252.4 cm^3 B. 126.2 cm^3

C. 492.2 cm^3 D. 703.8 cm^3

2

F. 576 unit^3 G. 288 unit^3

H. 240 unit^3 I. 336 unit^3
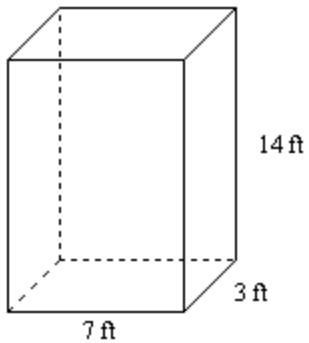
Geometry Chapter 5 Cumulative Review

3
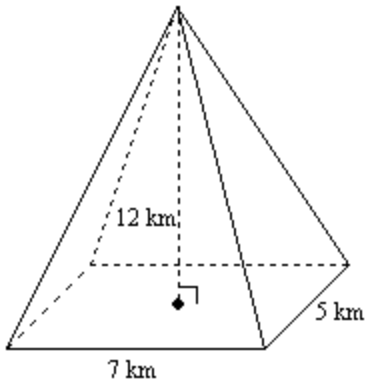
A. $140\,\text{km}^3$ B. $112\,\text{km}^3$

C. $420\,\text{km}^3$ D. $155.7\,\text{km}^3$
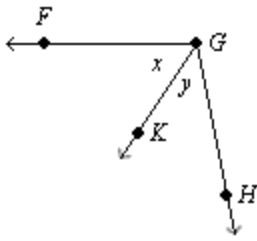
4

F. $24\,\text{ft}^3$ G. $294\,\text{ft}^3$

H. $147\,\text{ft}^3$ I. $686\,\text{ft}^3$

Geometry Chapter 5 Cumulative Review

In the figure, $\overrightarrow{GK}$ bisects $\angle FGH$.
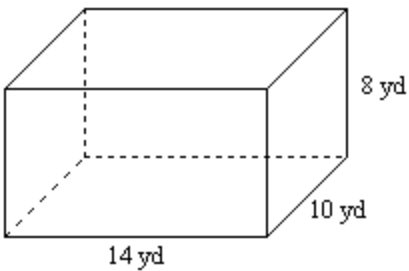

5 If $m\angle FGK = 5w + 7$ and $m\angle FGH = 114$, find w.

A. 10   B. 21.40

C. 57   D. 5

Find the surface area of the solid.

6

F. 664 yd^2 G. 796 yd^2

H. 332 yd^2 I. 128 yd^2

Make a conjecture about the next item in the sequence.
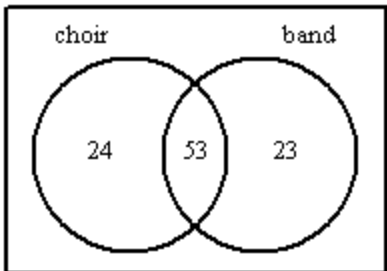
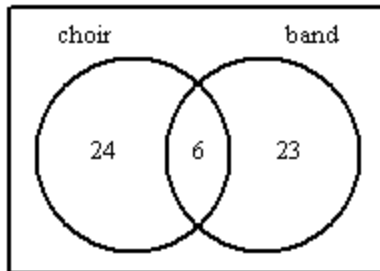**7** 1, –8, –17, –26,

A. -44   B. -53

C. -35   D. –43

Geometry Chapter 5 Cumulative Review

8 Of the 53 students in performing arts programs at Milford Middle School, 24 sing in the choir only, 6 play in the school band only, and 23 participate in both programs. Which Venn diagram correctly shows this situation?
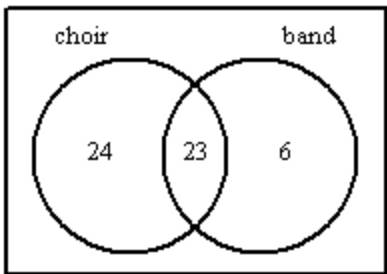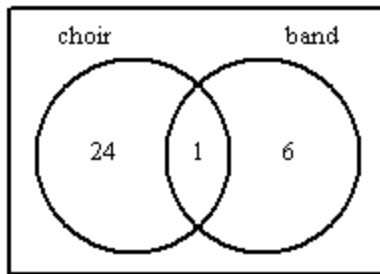
F. **Performing Arts**

choir   band

24   53   23

G. **Performing Arts**

choir   band

24   6   23

H. **Performing Arts**

choir   band

24   23   6

I. **Performing Arts**

choir   band

24   1   6

Write the inverse of the conditional statement. Determine whether the inverse is true *or* false. *If it is false, find a counterexample.*

9 **An equilateral triangle has three congruent sides.**

A. A non-equilateral triangle has three congruent sides. False; an isosceles triangle has two congruent sides.

B. A figure that has three non-congruent sides is not an equilateral triangle. True

C. A non-equilateral triangle does not have three congruent sides. True

D. A figure with three congruent sides is an equilateral triangle. True

<u>Geometry Chapter 5 Cumulative Review</u>

Refer to the figure below.
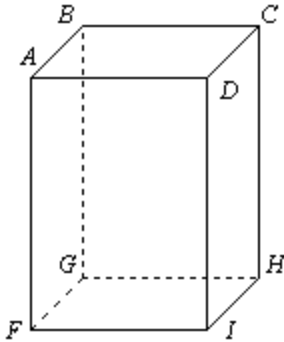
10 Name all segments parallel to $\overline{GF}$.

   F. $\overline{BC}, \overline{AD}, \overline{HI}$ G. $\overline{AB}, \overline{CD}, \overline{HI}$
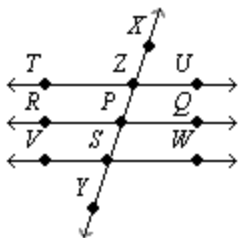
   H. $\overline{CD}, \overline{HI}$ I. $\overline{AB}, \overline{CD}$

11 Name all segments skew to $\overline{BC}$.

   A. $\overline{FI}, \overline{AD}, \overline{FA}, \overline{DI}$ B. $\overline{FG}, \overline{GH}, \overline{HI}, \overline{FI}$

   C. $\overline{CD}, \overline{AB}, \overline{BG}, \overline{CH}$ D. $\overline{GF}, \overline{HI}, \overline{DI}, \overline{AF}$

12 In the figure, $m\angle RPZ = 95$ and $\overleftrightarrow{TU} \parallel \overleftrightarrow{RQ} \parallel \overleftrightarrow{VW}$. Find the measure of angle *XZT*.

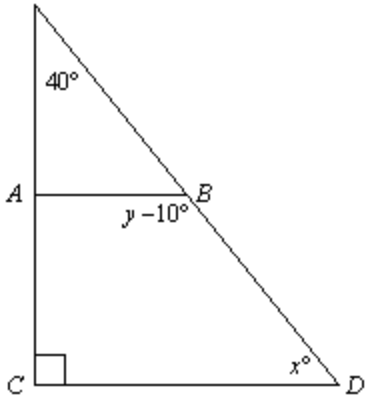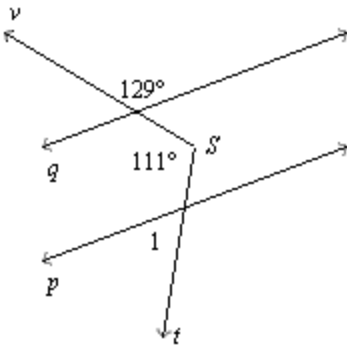   F. 75   G. 85
   H. 95   I. 65

Geometry Chapter 5 Cumulative Review

13 In the figure, $\overline{AB} \parallel \overline{CD}$. Find x and y.

A. $x = 40, y = 150$ B. $x = 140, y = 50$

C. $x = 50, y = 140$ D. $x = 30, y = 140$

14 In the figure, $p \parallel q$. Find $m\angle 1$.

F. $m\angle 1 = 69$ G. $m\angle 1 = 39$

H. $m\angle 1 = 60$ I. $m\angle 1 = 51$

Determine whether $\overleftrightarrow{WX}$ and $\overleftrightarrow{YZ}$ are parallel, perpendicular, or neither.

15   **W(3, –5), X(1, 3)**   **Y(5, –1), Z(7, 5)**

A. perpendicular   B. neither

C. parallel

Geometry Chapter 5 Cumulative Review

Write an equation in point-slope form of the line having the given slope that contains the given point.
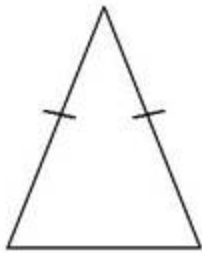
16 $m = -0.8, \left(14.5, 12.8\right)$

F. $y - 14.5 = -0.8(x - 12.8)$ G. $y - 12.8 = -0.8(x - 14.5)$

H. $y = -0.8x - 1.2$ I. $y + 12.8 = -0.8(x - 14.5)$

Classify the triangle by its sides. Choose the best answer.

17

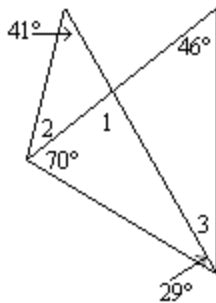A. acute   B. isosceles
C. equilateral   D. scalene

18 Use the distance formula to find the measures of the sides of $\triangle ABC$ and classify the triangle by its sides.

$A(2, 3)$ **$B(1, -1)$**   **$C(3, -1)$**

F. isosceles   G. equilateral
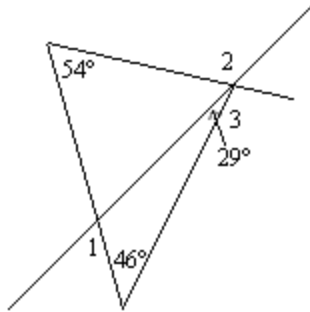H. obtuse   I. scalene

Find each measure.

19 $m\angle 1, m\angle 2, m\angle 3$

A. $m\angle 1 = 81, m\angle 2 = 41, m\angle 3 = 29$ B. $m\angle 1 = 82, m\angle 2 = 93, m\angle 3 = 35$

C. $m\angle 1 = 81, m\angle 2 = 40, m\angle 3 = 35$ D. $m\angle 1 = 82, m\angle 2 = 41, m\angle 3 = 29$

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20 $m\angle1,\ m\angle2,\ m\angle3$

F. $m\angle1 = 51,\ m\angle2 = 100,\ m\angle3 = 100$ G. $m\angle1 = 75,\ m\angle2 = 151,\ m\angle3 = 75$

H. $m\angle1 = 46,\ m\angle2 = 129,\ m\angle3 = 129$ I. $m\angle1 = 75,\ m\angle2 = 129,\ m\angle3 = 100$

Name the congruent angles and sides for the pair of congruent triangles.

21 $\triangle GHK \cong \triangle XZT$

A. $\angle G \cong \angle T, \angle H \cong \angle Z, \angle K \cong \angle X,$
   segment $GH \cong$ segment $TZ,$
   segment $HK \cong$ segment $ZX,$
   segment $GK \cong$ segment TX

B. $\angle G \cong \angle Z, \angle H \cong \angle T, \angle K \cong \angle X,$
   segment $GH \cong$ segment $ZT,$
   segment $HK \cong$ segment $TX,$
   segment $GK \cong$ segment ZX

C. $\angle G \cong \angle T, \angle H \cong \angle X, \angle K \cong \angle Z,$
   segment $GH \cong$ segment $TX,$
   segment $HK \cong$ segment $XZ,$
   segment $GK \cong$ segment TZ

D. $\angle G \cong \angle X, \angle H \cong \angle Z, \angle K \cong \angle T,$
   segment $GH \cong$ segment $XZ,$
   segment $HK \cong$ segment $ZT,$
   segment $GK \cong$ segment XT

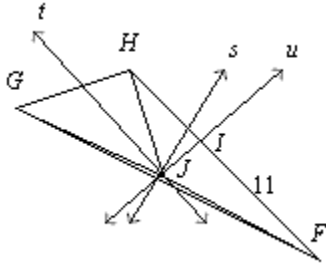*Identify the congruent triangles in the figure.*

22
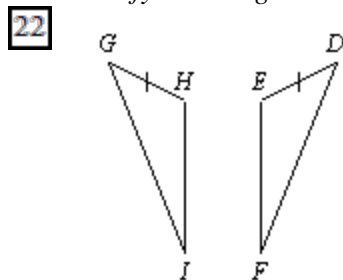
F. $\triangle DEF \cong \triangle IHG$ G. $\triangle EFD \cong \triangle IHG$

H. $\triangle EDF \cong \triangle IGH$ I. $\triangle FDE \cong \triangle IGH$
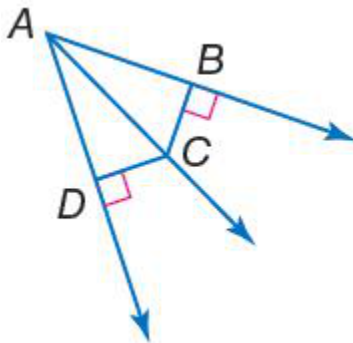
Geometry Chapter 5 Cumulative Review

23 Lines *s*, *t*, and *u* are perpendicular bisectors of the sides of $\triangle FGH$ and meet at *J*.
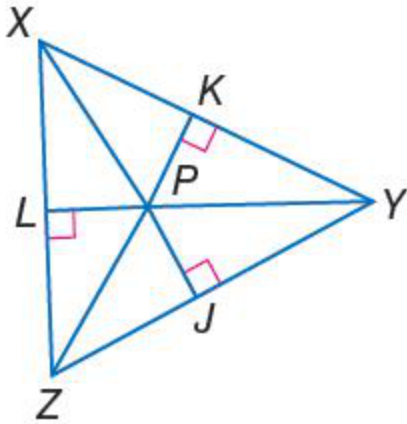If $JG = 4x + 2$, $JH = 4y - 2$, $JF = 6$ and $HI = 2z - 3$, find *x*, *y*, and *z*.

A. $x = 1$, $y = 2$, $z = 7$ B. $x = 2$, $y = 1$, $z = 4$

C. $x = 0$, $y = 3$, $z = 4$ D. $x = 2$, $y = 1$, $z = 7$

24 If $m\angle CAD = 28°$, $CD = 9$, and $BC = 9$, find $m\angle CAB$.
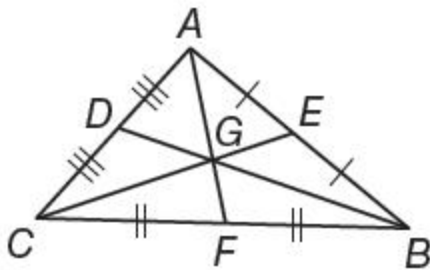

F. 28°   G. 56°
H. 62°   I. 14°

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25 P is the incenter of $\triangle XYZ$. If $PY = 5$ and $JY = 4$, find LP.
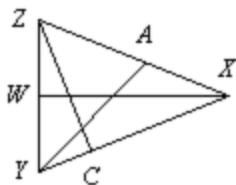

    A. 9   B. 4

    C. 5   D. 3

26 In $\triangle ABC$ shown below, if $AG = 8$ what is FG?

    F. 16   G. 8

    H. 24   I. 4

27 $\overline{ZC}$ is an altitude, $m\angle CYW = (3x + 54)°$, and $m\angle WZC = (9x)°$. Find $m\angle WZC$.

    A. 3°   B. 18°

    C. 27°   D. 63°

Geometry Chapter 5 Cumulative Review

Determine whether the given measures can be the lengths of the sides of a triangle. Write yes *or* no. *Explain.*

28 8.9, 14.2, 17.5

    F. Yes; the 3rd side is the longest side.   G. No; the 3rd side is not greater than the
                                                        difference of two sides.

   H. True; the length of the 3rd side is between the sum and the   I. False; the sum of two sides is not
        difference of the other two sides.   greater than the 3rd side

29 An isosceles triangle has a base 8.8 units long. If the congruent side lengths have measures to the first decimal place, what is the shortest possible length of the sides?

    A. 17.7   B. 4.5

    C. 4.3   D. 8.9

30 In the figure below, $AD = 11.5$ and $BC = 11$. Compare $m\angle ABD$ and $m\angle BDC$.
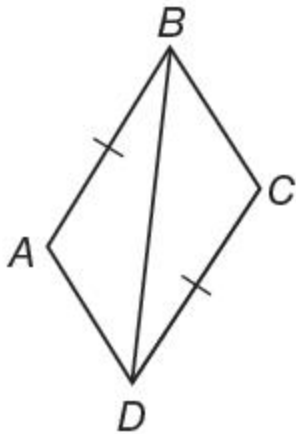
    F. $m\angle ABD < m\angle BDC$ G. $m\angle ABD > m\angle BDC$
    H. $m\angle ABD = m\angle BDC$

Geometry Chapter 5 Cumulative Review

Answer Key

1. C

2. G

3. A

4. G

5. A

6. F

7. C

8. H

9. C

10. G

11. D

12. H

13. C

14. H

15. B

16. G

17. B

18. F

19. C

20. I

21. D

22. I

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23. A

24. F

25. D

26. F

27. C

28. H

29. B

30. G