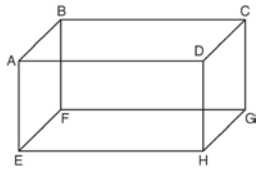
Geometry Review Sheet #5 Name _____

Date Due: **January 13, 2012**

1. The diagram below shows a rectangular prism.



Which pair of edges are segments of lines that are coplanar?

(1) *AB* and *DH* (3) *BC* and *EH*

(2) *AE* and *DC* (4) *CG* and *EF*

2. Which of the four centers *always* remains on or inside a triangle?

(1) incenter, only

(2) incenter and centroid

(3) orthocenter and incenter

(4) circumcenter, only

3. Given points *A*(0, 0), *B*(3, 2), and *C*(-2, 3), which statement is true?

(1) $\overline{AB}$ is parallel to $\overline{AC}$.

(2) $\overline{AB}$ is perpendicular to $\overline{AC}$.

(3) *AB* is greater than *BC*.

(4) $\overline{BC}$ is perpendicular to $\overline{CA}$.

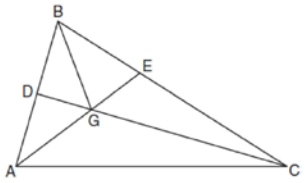
4. Given: $y = \frac{1}{4}x - 3$

$y = x^2 + 8x + 12$.

In which quadrant will the graphs of the given equations intersect?

(1) I (2) II (3) III (4) IV

5. In the diagram below of ΔABC, *CD* is the bisector of $\angle BCA$, *AE* is the bisector of $\angle CAB$, and *BG* is drawn.



Which statement must be true?

(1) *DG* = *EG* (3) $\angle AEB \cong \angle AEC$

(2) *AG* = *BG* (4) $\angle DBG \cong \angle EBG$

6. Which statement is the inverse of the statement "If Abbey is not injured, she will win the race"?

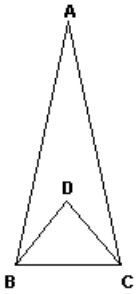
(1) If Abbey wins the race, she is not injured.

(2) If Abbey is injured, she will win the race.

(3) If Abbey is injured, she will not win the race.

(4) If Abbey does not win the race, she is injured.

7. In the diagram of ΔABC, $\overline{AB} \cong \overline{AC}$, $\overline{DB}$ and $\overline{DC}$ are angle bisectors, and m$\angle BAC$ = 20. Find m$\angle BDC$.



(1) 40 (2) 80 (3) 100 (4) 120

Short Answer

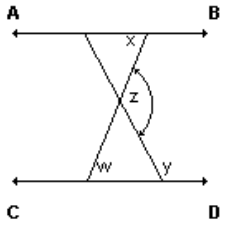
Please show all work on a separate piece of paper and/or graph paper.

8. In $\triangle ABC$, $m\angle B > m\angle C$ and $m\angle C > m\angle A$. Which side of $\triangle ABC$ is longest?

9. What is the distance between the points $R(5, 7)$ and $S(-2, 3)$?

10. What is the slope of the line containing points $A(4, -1)$ and $B(0, 2)$?

11. In the diagram: $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $m\angle x = 68$, and $m\angle y = 117$. What is $m\angle z$?

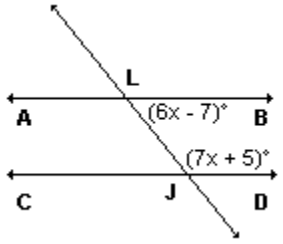


12. If the coordinates of P are (-2, 7), what are the coordinates of $(D_2 \circ r_{y=x})(P)$?

13. Plane P passes through point M on line L. If plane P is perpendicular to line L at point M, then how many other planes can also be perpendicular to line L at point M?

14. Given ΔABC with medians $\overline{AD}$, $\overline{BE}$, and $\overline{CF}$ intersect at G. If $CF = 24$, what is the length of $\overline{FG}$?

15. In the diagram: $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$ and $\overleftrightarrow{LJ}$ is a transversal. If $m\angle JLB = 6x - 7$ and $m\angle LJD = 7x + 5$, what is the value of x?



16. In right ΔDEF, $m\angle D = 90$ and $m\angle F$ is 12 degrees less than twice $m\angle E$. Find $m\angle E$.

17. The equation of line k is $y = \frac{1}{3}x - 2$. The equation of line m is $-2x + 6y = 18$. Are lines k and m parallel, perpendicular or neither?