Geometry Review Sheet #10 Name _____

Date Due: **April 27, 2012**

1. A parallelogram *must* be a rhombus if the

   (1) diagonals are perpendicular

   (2) opposite angles are congruent

   (3) diagonals are congruent

   (4) opposite sides are congruent

2. The sides of a triangle measure 5, 9, and 10. Find the perimeter of a similar triangle whose longest side measures 15.

   (1) 16 (3) 24

   (2) 36 (4) 48

3. Which is an equation of the line that passes through point (3, 5) and is parallel to the *x*-axis?

   (1) $x = 3$ (3) $x = 5$

   (2) $y = 3$ (4) $y = 5$

4. What is the converse of the statement "If it is Sunday, then I do not go to school"?

   (1) If I do not go to school, then it is Sunday.

   (2) If it is not Sunday, then I do not go to school.

   (3) If I go to school, then it is not Sunday.

   (4) If it is not Sunday, then I go to school.

5. In plane *P*, lines *m* and *n* intersect at point *A*. If line *k* is perpendicular to line *m* and line *n* at point *A*, then line *k* is

   (1) contained in plane *P*

   (2) parallel to plane *P*

   (3) perpendicular to plane *P*

   (4) skew to plane *P*

6. Which transformation is an opposite isometry?

   (1) dilation

   (2) line reflection

   (3) rotation of 90°

   (4) translation

7. In ΔDEF, *X* is a point on $\overline{EF}$ and *Y* is a point on $\overline{DF}$ so that $\overline{XY} \parallel \overline{DE}$. If $XF = 10$, $YF = 6$, and $EF = 13$, what is *DY*?

   (1) 1.8 (3) 14.8

   (2) 11.2 (4) 18

8. Which point is the intersection of the altitudes of a triangle?

   (1) orthocenter

   (2) centroid

   (3) incenter

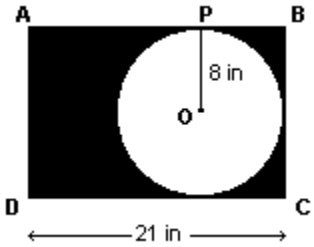
   (4) circumcenter

Short Answer

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

9. If the coordinates of A are (2, -3), what are the coordinates of A', the image of A after $R_{90°} \circ r_{y\text{-}axis}(A)$?

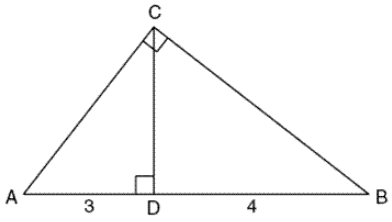
10. In the diagram, circle O is inscribed in rectangle $ABCD$. Radius $\overline{OP}$ is drawn to $\overline{AB}$, $CD = 21$ inches, and $OP = 8$ inches. To the *nearest integer*, find the area of the shaded region.



11. If the measure of an exterior angle of a regular polygon is 45°, then the polygon is

12. In ΔABC, $\overline{AC}$ is extended through C to D. If $m\angle BAC = 6x + 10$, $m\angle ABC = 6x - 10$, and $m\angle BCD = 8x + 20$, find x.

13. In the diagram below of right triangle ACB, altitude $\overline{CD}$ intersects $\overline{AB}$ at D. If $AD = 3$ and $DB = 4$, find the length of $\overline{CD}$ in simplest radical form.



14. The coordinates of the midpoint of $\overline{AB}$ are (-2, 4). If the coordinates of point A are (7, 10), find the coordinates of point B.

15. In the diagram, $ABCD$ is a trapezoid with altitudes DW and CZ drawn, $CD = 17.3$, $DA = 8.6$, $m\angle A = 68$, and $m\angle B = 53$. To the *nearest tenth*, the perimeter of $ABCD$. (Hint: Think Trig!)