Test 1 Review 2

Name: _____ Date: _____

1. Phil is cutting a triangular piece of tile. If the triangle is scalene, which set of numbers could represent the lengths of the sides?

   (1) {2, 4, 7} (2) {4, 5, 6}

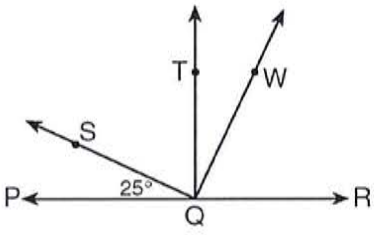
   (3) {3, 5, 8} (4) {5, 5, 8}

2. Which set of numbers represents the lengths of the sides of a triangle?

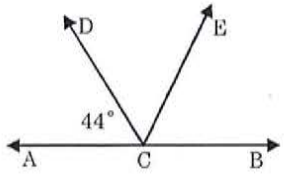
   (1) {5, 18, 13} (2) {6, 17, 22}

   (3) {16, 24, 7} (4) {26, 8, 15}

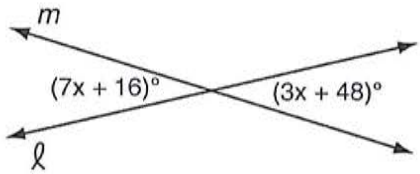
3. In the accompanying diagram, $\overleftrightarrow{QT} \perp \overleftrightarrow{PQR}$ at Q, $\overleftrightarrow{QW} \perp \overleftrightarrow{QS}$ at Q, and $m\angle SQP = 25$. Find $m\angle TQW$.



4. In the accompanying diagram, $\overleftrightarrow{ACB}$ is a straight line, $m\angle DCA = 44$, and $\overrightarrow{CE}$ bisects $\angle DCB$. Find $m\angle ECB$.



5. The accompanying diagram shows intersecting lines ℓ and m. Solve for the value of x.



6. $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ intersect at E. If $m\angle AEC = 5x - 20$ and $m\angle BED = x + 50$, find, in degrees, $m\angle CEB$.

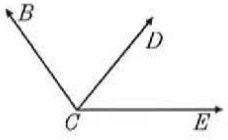
7. In two supplementary angles, the measure of one angle is 6 more than twice the measure of the other. The measures of these two angles are

   (1) 26° and 62° (2) 32° and 58°

   (3) 58° and 122° (4) 62° and 118°

8. The measures of two complementary angles are in the ratio 5 : 1. What is the measure, in degrees, of the smaller angle?

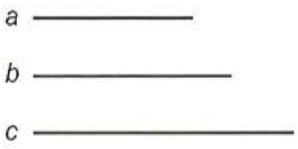
9. In the accompanying diagram, $m\angle ECB = 6x$, $m\angle ECD = 3x - 11$, and $m\angle DCB = 74$. What is the value of x?



10. In the diagram below, car A is parked 5 miles from car B. Sketch the points that are 3 miles from car A and sketch the points that are 3 miles from car B. Label with an **X** all points that satisfy both conditions. (1 mile = 1 cm)

11. On the line segment below, use a compass and straightedge to construct equilateral triangle ABC. [Leave all construction marks.]

12. Construct a triangle with sides of lengths a, b, and c, as shown below. Be sure the longest side of your triangle lies on $\overline{PQ}$ and that point P is one of the triangle's vertices. [*Show all arcs necessary for a valid construction.*]



13. Using a compass and straightedge, construct $\triangle DEF$ such that $\triangle ABC \cong \triangle DEF$.