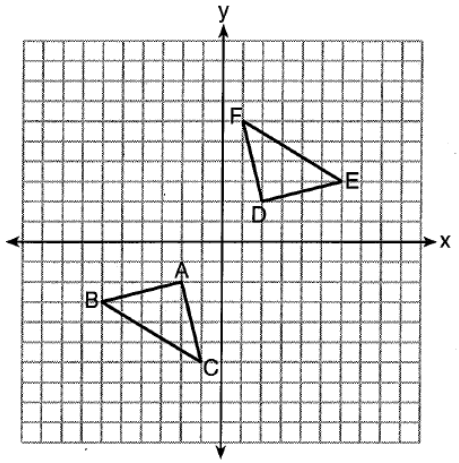
Name: _____ Geometry
Date: _____ Review
Class: _____ Graded Homework 20

Show all of your work for every problem. The numbers in the brackets are the points that each problem is worth. Multiple Choice Problems are worth 3.
NO WORK = ZERO CREDIT

1) [3] Triangle *ABC* and triangle *DEF* are graphed on the set of axes below.



Which sequence of transformations maps triangle *ABC* onto triangle *DEF*?

(1) a reflection over the x-axis followed by a reflection over the y-axis

(2) a 180° rotation about the origin followed by a reflection over the line $y = x$

(3) a 90° clockwise rotation about the origin followed by a reflection over the y-axis

(4) a translation 8 units to the right and 1 unit up followed by a 90° counterclockwise rotation about the origin

2) [3] A line that passes through the points whose coordinates are (1,1) and (5,7) is dilated by a scale factor of 3 and centered at the origin. The image of the line

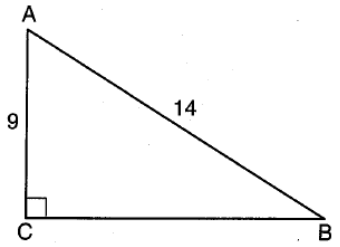
(1) is perpendicular to the original line

(2) is parallel to the original line

(3) passes through the origin

(4) is the original line

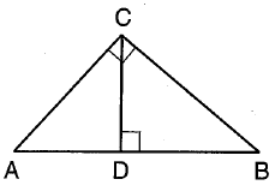
3) [3] In the diagram of right triangle ABC shown below, $AB = 14$ and $AC = 9$.



What is the measure of $\angle A$, to the *nearest degree*?

(1) 33
(2) 40
(3) 50
(4) 57

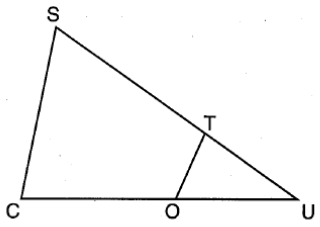
4) [3] In the diagram below, $\overline{CD}$ is the altitude drawn to the hypotenuse $\overline{AB}$ of right triangle ABC.



Which lengths would *not* produce an altitude that measures $6\sqrt{2}$?

(1) $AD = 2$ and $DB = 36$
(2) $AD = 3$ and $AB = 24$
(3) $AD = 6$ and $DB = 12$
(4) $AD = 8$ and $AB = 17$

5) [3] In $\triangle SCU$ shown below, points T and O are on $\overline{SU}$ and $\overline{CU}$, respectively. Segment OT is drawn so that $\angle C \cong \angle OTU$.



If $TU = 4$, $OU = 5$, and $OC = 7$, what is the length of $\overline{ST}$?

(1) 5.6
(2) 8.75
(3) 11
(4) 15

6) [3] Point A is located at (5, -7) and point B is located at (-4, 2). $\overleftrightarrow{CDE}$ is a line that perpedicularlly bisects $\overline{AB}$ with point D located on $\overline{AB}$. Find the equation of $\overleftrightarrow{CDE}$.

7) [4] Two regular octagons are similar.with area ratio 25:49. A side of the smaller octagon is represented by 4x – 1 and a side of the larger octagon is represented by 4x + 5, find the perimeter of the larger octagon.