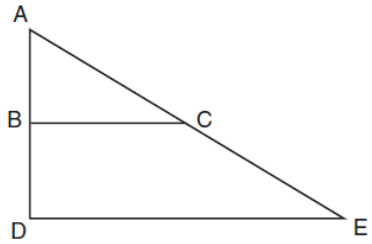
Name: _____ Geometry
Date: _____ Review
Class: _____ Graded Homework 9

Show all of your work for every problem. The numbers in the brackets are the points that each problem is worth.

1)[3] Segment TY has point O on it dividing it into 2 parts such that TO:OY = 3:5. If TO = 8x + 1, TY = $x^2 + 9x + 36$, and OY = $2x^2 + 6x - 1$, find the difference between the TO and OY.

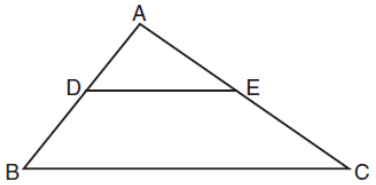
2) [3] Segment BC is a midsegment



Which statement is always true?

(1) $2AB = AD$
(2) $\overline{AD} \perp \overline{DE}$
(3) $AC = CE$
(4) $\overline{BC} \parallel \overline{DE}$

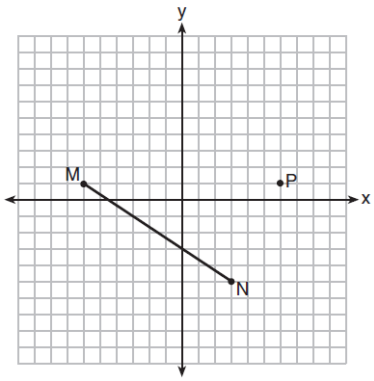
3) [3] In the diagram below, $\triangle ABC \sim \triangle ADE$.



Which measurements are justified by this similarity?

(1) $AD = 3, AB = 6, AE = 4$, and $AC = 12$
(2) $AD = 5, AB = 8, AE = 7$, and $AC = 10$
(3) $AD = 3, AB = 9, AE = 5$, and $AC = 10$
(4) $AD = 2, AB = 6, AE = 5$, and $AC = 15$

4) [3] Given $\overline{MN}$ shown below, with $M(-6,1)$ and $N(3,-5)$, what is an equation of the line that passes through point $P(6,1)$ and is parallel to $\overline{MN}$?



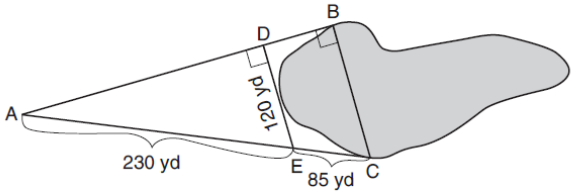
(1) $y = -\frac{2}{3}x + 5$

(2) $y = -\frac{2}{3}x - 3$

(3) $y = \frac{3}{2}x + 7$

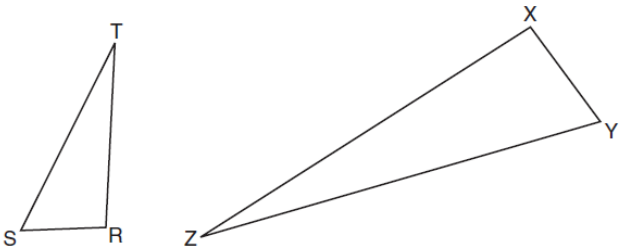
(4) $y = \frac{3}{2}x - 8$

5) [4] To find the distance across a pond from point B to point C, a surveyor drew the diagram below. The measurements he made are indicated on his diagram.

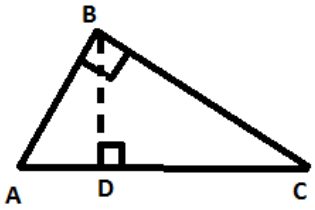


Use the surveyor's information to determine and state the distance from point B to point C, to the *nearest yard*.

6) [4] Triangles RST and XYZ are drawn below. If $RS = 6$, $ST = 14$, $XY = 9$, $YZ = 21$, and $\angle S \cong \angle Y$, is $\triangle RST$ similar to $\triangle XYZ$? Justify your answer.



7) [4]



BC = 12, AB = 9, Find BD

8) [3] If the 3 sides of a triangle are represented by x + 4, 2x, and 3x – 4 while the perimeter is 36, what type of triangle is this?