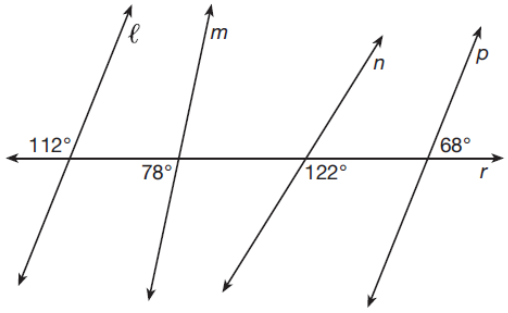
Name: _____ Geometry
Date: _____ Review
Class: _____ Graded Homework 5

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

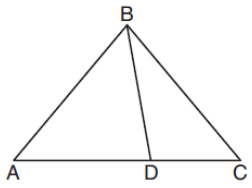
1) [3] In the diagram below, lines ℓ, m, n, and p intersect line r.



Which statement is true?

(1) $\ell \parallel n$
(2) $\ell \parallel p$
(3) $m \parallel p$
(4) $m \parallel n$

2) [3] In the diagram below, $m\angle BDC = 100°$, $m\angle A = 50°$, and $m\angle DBC = 30°$.



Which statement is true?

(1) $\triangle ABD$ is obtuse.
(2) $\triangle ABC$ is isosceles.
(3) $m\angle ABD = 80°$
(4) $\triangle ABD$ is scalene.

3) [3] The coordinates of vertices A and B of $\triangle ABC$ are $A(3,4)$ and $B(3,12)$. If the area of $\triangle ABC$ is 24 square units, what could be the coordinates of point C?

(1) $(3,6)$
(2) $(8,-3)$
(3) $(-3,8)$
(4) $(6,3)$

4) [3] Point P is on the directed line segment from point $X(-6,-2)$ to point $Y(6,7)$ and divides the segment in the ratio 1:5. What are the coordinates of point P?

(1) $(4,5\frac{1}{2})$
(2) $(-\frac{1}{2},-4)$
(3) $(-4\frac{1}{2},0)$
(4) $(-4,-\frac{1}{2})$

5) [3] Line segment NY has endpoints $N(-11,5)$ and $Y(5,-7)$. What is the equation of the perpendicular bisector of $\overline{NY}$?

(1) $y + 1 = \frac{4}{3}(x + 3)$ (3) $y - 6 = \frac{4}{3}(x - 8)$

(2) $y + 1 = -\frac{3}{4}(x + 3)$ (4) $y - 6 = -\frac{3}{4}(x - 8)$

6) [4] <TQZ has ray QP that splits it into two parts. m<TQP = x^2 +10, m<TQZ = 20x – 17, and m<PQZ = x^2 – 6x + 45. Find an explain the value of x.

7) [4] Three segments are related in the following manner. Segment 2 is 4 less than twice the length of segment 1. Segment 3 is 6 more than 3 times the length of segment 1. When you subtract segment 2's length from segment 3's length, the result the same as 1 more than twice the length of segment 1. Find out the length of segment 2.