**Ch 5 Equations of Parallel and Perpendicular Lines (Day 3)**

**Parallel Lines**

1. The points A(6, 3), B(2, 9) and C(2, 3) are given. Determine the coordinates of a point D on the *y*-axis such that CD | | AB
2. The points A(-2, 0), B(6, 4) and C(-3, 4) are given. Determine the coordinates of a point D on the *y*-axis such that CD | | AB
3. Determine the value of *x* so that the line segment with endpoints (*x*, 3) and B(1, 7) is parallel to the line segment with endpoints C(2, -4) and D(5, -2)
4. Determine the value of *y* so that the line segment with endpoints (2, *y*) and B(8, 6) is parallel to the line segment with endpoints C(-7, 6) and D(3, 1)
5. The coordinates of three vertices of a parallelogram are given. Determine the possible coordinates of the fourth vertex: A(-4, 1), T(-3, -4), G(5, 0). Use graph paper below

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**Perpendicular Lines**

1. The slopes of two perpendicular line segments are given. Determine the value of *k*.

a)  b)  c)  d) 

2. A line segment has endpoints C(6, 2) and D(8, 5). Determine point P on the *x*-axis such that PC is perpendicular to CD.

3. A line segment has endpoints C(6, 2) and D(8, 5). Determine point P on the *y*-axis such that PC is perpendicular to CD.

4. Points A, B, and C are three vertices of a rectangle. Plot the points on a grid. Then determine the coordinates of the fourth vertex

a) A(2, -1), B(5, -3), C(7, 0)

b) A(1, 8), B(-3, -2), C(6,6)

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