Pg 115 #5 A(1,4) B(−1,0) C(6,3) D(t,−1)

A) AB is ∥ to CD

A(1,4) B(−1,0)
$x_1 y_1$ $x_2 y_2$

$m = \frac{0-4}{-1-1}$

$m = \frac{-4}{-2}$

$m = 2$

C(6,3) D(t,−1)
$x_1 y_1$ $x_2 y_2$

$2 = \frac{y_2 - y_1}{x_2 - x_1}$

$(t-6)\,2 = \frac{-1-3}{t-6} \cdot (t-6)$

$2t - 12 = -4$
$+12 \quad +12$

$\frac{2t}{2} = \frac{8}{2}$ → $t = 4$

Collinear Points –

- Three or more points are collinear if they lie on the same straight line

They have the same slope and they share a point in common

Example: Determine whether or not the following sets of three points are collinear. A(0,-2), B(-1,-5), and C(3, 7)

AB

x_1y_1 x_2y_2

$m = \frac{-5-(-2)}{-1-0}$

$m = \frac{-3}{-1}$

$m = 3$

x_2y_2 x_1y_1

BC

$m = \frac{7-(-5)}{3-(-1)}$

$m = \frac{12}{4}$

$m = 3$

AB same slope as BC and both include B so collinear

Same slope, point B is common so collinear

HW: Pg 116 #1-2
Pg 117 #1-6