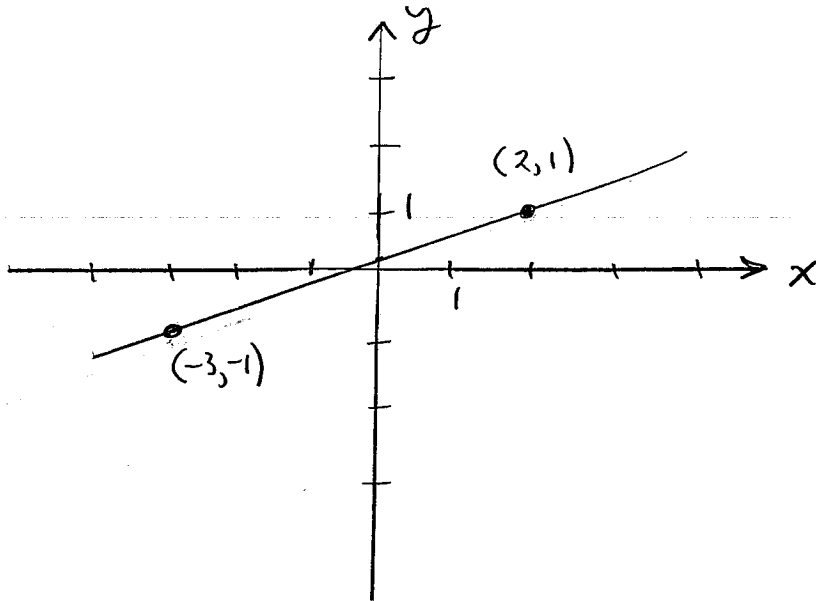


- (1) [5] Determine the slope of the line through the points $(-3, -1)$ and $(2, 1)$ and graph the line.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-1 - 1}{-3 - 2} = \frac{-2}{-5} = \frac{2}{5}$$



- (2) [5] Determine an equation of the line containing the points $(1, 3)$ and $(-1, 2)$.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - 2}{1 - (-1)} = \frac{1}{2}$$

$$\therefore \boxed{y - 3 = \frac{1}{2}(x - 1)}$$

$$\text{or } \boxed{y = \frac{1}{2}x + \frac{5}{2}}$$

(3) [5] In 2008 the average cost of a home was \$94,823, and in 2009 the average was \$88,280. Assuming the relationship between time and cost is linear, find an equation which predicts the average cost C of a home in year t .

t	C
2008	94,823
2009	88,280

$$m = \frac{C_2 - C_1}{t_2 - t_1} = \frac{88,280 - 94,823}{2009 - 2008} = -6543$$

$$\therefore C - C_1 = m(t - t_1)$$

$$C - 94,823 = -6,543(t - 2008)$$

\therefore

$$C = -6,543t + 13,233,167$$