Name:
Result:

1. *(4 points)*

(a) Find the gradient of the line segment AB, where $A = (-1, 3)$ and $B = (2, 1)$.

(b) The gradient of the line segment CD is $\frac{3}{4}$, $C = (-2, 1)$ and $D = (6, y_d)$. Find the second coordinate of point D.

(c) Points $E(-1, 3), F(3, 1)$ and $G(x_G, 0)$ are collinear. Find the first coordinate of point G.

2. *(3 points)*

(a) Find the midpoint of AB, where $A = (-3, 7)$ and $B(5, 1)$.

(b) The midpoint of CD is $M_{CD}(1, -3)$ and $C = (-2, 1)$. Find the coordinates of D.

3. *(3 points)*

(a) Write down an equation of the line with gradient $\frac{1}{2}$, which passes through $(-1, 2)$.

(b) Find an equation of the line passing through points $(-2, 1)$ and $(1, 2)$.