Name:
Result:

1. *(4 points)*

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

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

(c) Points $E(-1, 2), F(5, 0)$ and $G(x_G, -1)$ are collinear. Find the first coordinate of point G.

2. *(3 points)*

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

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

3. *(3 points)*

(a) Write down an equation of the line with gradient $\frac{1}{3}$, which passes through $(-3, 1)$.

(b) Find an equation of the line passing through points $(-3, 2)$ and $(1, 3)$.