## Additional Test Exercises 2

**1.** Deduce the equation and graph the following straight lines on the same diagram
(a) $c = 2$, $m = -1$ (b) $c = 0$, $m = -1$ (c) $c = -1$, $m = -1$

**2.** Deduce the equation and graph the following straight lines on the same diagram
(a) $c = 2$, $m = 1$ (b) $c = 2$, $m = 1.5$ (c) $c = 2$, $m = 0.6$

**3**. The equation of a line is given as $2x + 5y - 4 = 0$
(a) determine the values of $y$ when $x = 2$, $x = 0$, $x = -1$
(b) plot the graph of the line

**4**. Given the general expression for a consumption function: $C = C_0 + bY$, and a savings function: $S = Y - C$
where the constants $C_0$ and $b$ are referred to as autonomous consumption and the marginal propensity to consume respectively.
If autonomous consumption is 20 and the marginal propensity to consume is 0.6

(a) Write down the equation of
(i) the consumption function (ii) the savings function
(b) Find the level of consumption and saving when
(i) $Y = 50$ (ii) $Y = 100$ (iii) $Y = 140$
Graph the consumption function

**5**. Test whether the following points lie on the given line
(a) $(x, y) = (3, 6), (2, 4), (3, 5)$, line $y = 2x$
(b) $(Q, P) = (4, 5), (3, 4), (5, 7)$, line $Q + 1 = P$
(c) $(Q, TC) = (-3, 2), (-1, 6), (4, -1)$, line $TC - 8 = 2Q$

**6**. For each of the following equations:
(a) $y = 2x + 5$ (b) $P = 8 - 3Q$
Graph each line.
Deduce the equation of the translated line obtained by shifting the original line
(i) two units vertically upwards
(ii) one unit vertically down
(iii) three units forward along the horizontal axis
(iv) two units backwards along the horizontal axis
Graph the translated lines on the same diagram as the original line.

**7**. Write down the equation for variable cost and total cost (assume a linear total cost function) when the fixed cost of a product is £12 800 while each unit produced costs £212. Hence write down the equation of the new total cost function
(a) if a once-off subsidy of £2 000 is given
(b) fixed costs increases by 23% (assume the subsidy still applies)