HOME EXERCISE 1

Set out carefully all appropriate working.

1.

$y = \frac{2}{3}x + 6$

$(b,8)$

$(0,a)$

$(c,0)$
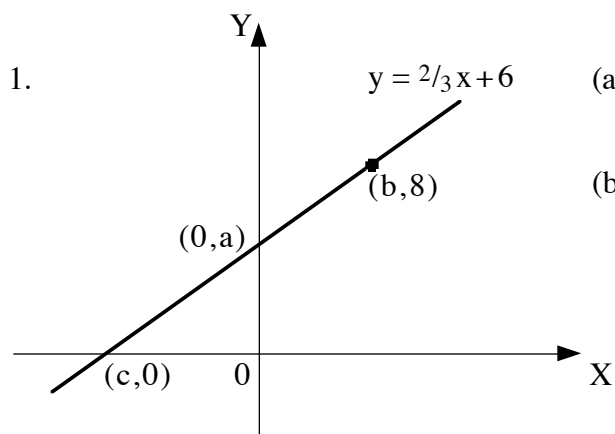
(a) The graph shown has equation $y = \frac{2}{3}x + 6$.
   Use the equation to find the values of a, b and c.　(3)

(b) Find the equation of the line **parallel** to
   this line and passing through the point $(2,5)$.　(4)
   Write the equation in the form $Ax + By + C = 0$.

2.

B $(4,7)$

C

A $(-2,-5)$
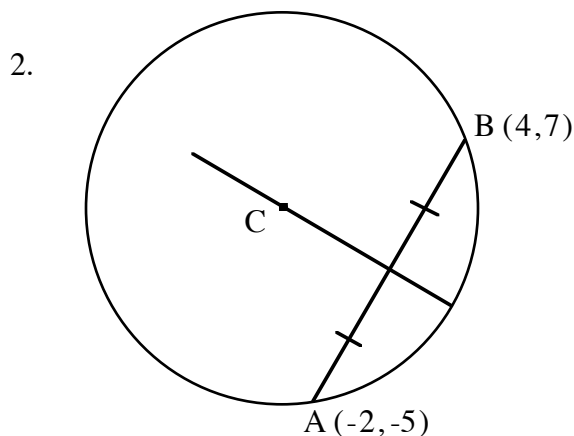
The diagram shows a circle centre C.
The line through C bisects chord AB.

Find the equation of the line through C.　(5)
Write the equation in the form $Ax + By + C = 0$.

3. If $g(t) = \dfrac{t+4}{t-2}$, $t \neq 2$

   (a) find the image of 5 under function g　(1)

   (b) find $g(-2)$　(1)

   (c) if $g(c) = 2$, find the value of c　(1)

   (d) explain why the function is undefined for $t = 2$.　(1)

4. If $h(x) = x^2 - 2x$, write in simplest form:　(a) $h(2x)$　(1)

   (b) $h(x+2)$　(2)

   and hence　(c) $h(2x) - h(x+2)$　(1)

Total 20 marks