HOME EXERCISE 13

Set out carefully all appropriate working.

Do **not** use a calculator in questions 1, 2 or 3.
Use a calculator in question 4.

1. The graph shown has equation $3x - 2y = 6$.

   (a) Use the equation to find the values of a, b and c. (3)
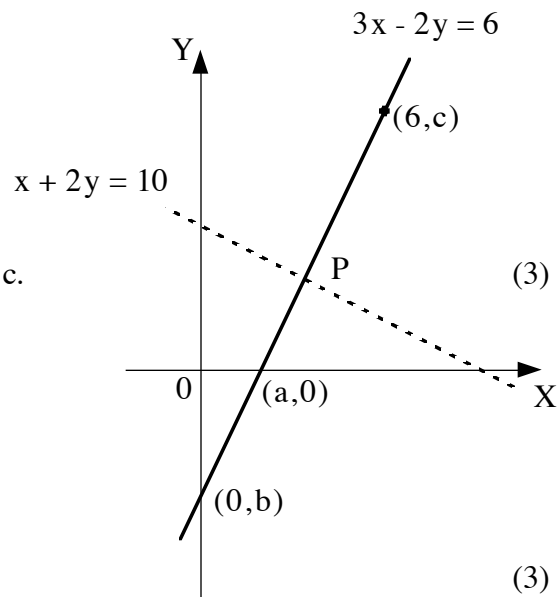
   (b) A second line with equation $x + 2y = 10$
   is drawn, which meets the first line at point P.

   Solve the system of equations **algebraically**:
   $$3x - 2y = 6$$
   $$x + 2y = 10$$
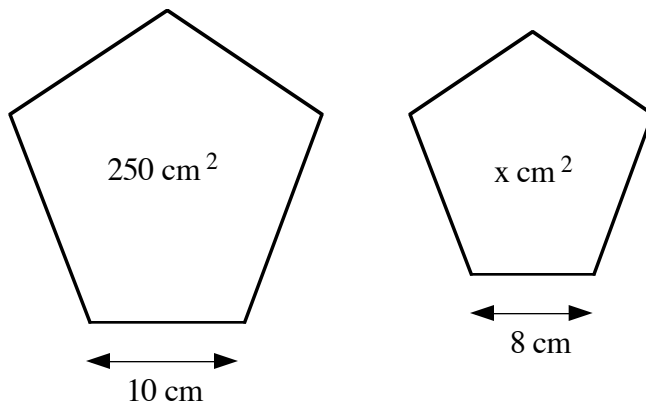   to find the co-ordinates of point P. (3)

2. Remove the brackets and simplify fully:

   (a) $(x - 3)^2$ (2)

   (b) $(x + 3)(x - 3)$ (2)

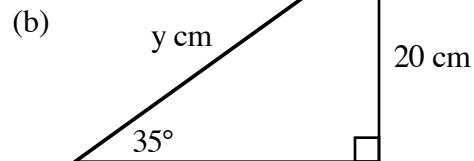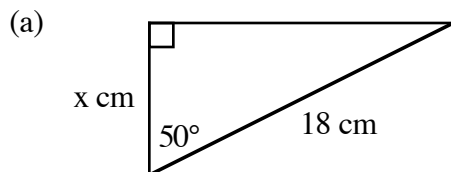   (c) $(x - 3)^2 - (x + 3)(x - 3)$ (1)

3.

250 cm^2 x cm^2

10 cm   8 cm

The shapes shown are similar.
Calculate the value of x. (3)

4. The triangles shown are right-angled.

   (a)

   x cm   50°   18 cm

   (b)

   y cm   20 cm   35°

Calculate the values of x and y, correct to **3 significant figures**. (6)

Total 20 marks