

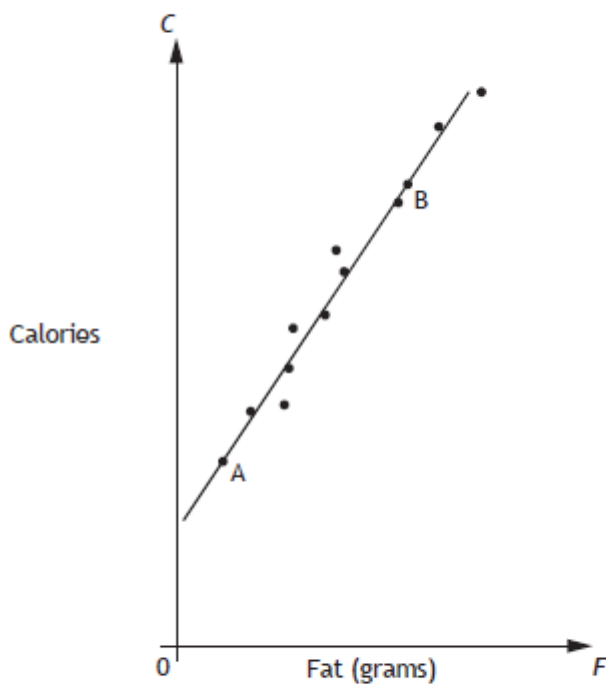
## Friday 4's Number 2

1 Express  $x^2 - 14x + 44$  in the form  $(x - a)^2 + b$ .

2

2 McGregor's Burgers sells fast food.

The graph shows the relationship between the amount of fat,  $F$  grams, and the number of calories,  $C$ , in some of their sandwiches.



A line of best fit has been drawn.

Point A represents a sandwich which has 5 grams of fat and 200 calories.

Point B represents a sandwich which has 25 grams of fat and 500 calories.

(a) Find the equation of the line of best fit in terms of  $F$  and  $C$ . 3

(b) A Super Deluxe sandwich contains 40 grams of fat.

Use your answer to part (a) to estimate the number of calories this sandwich contains.

Show your working. 1

3 Express  $\sqrt{40} + 4\sqrt{10} + \sqrt{90}$  as a surd in its simplest form. 3

4 (a) A straight line has equation  $4x + 3y = 12$ .  
Find the gradient of this line. 2