

National 5 Mathematics

Exam Questions by Topic

Straight Lines & Gradients

2015 N5 Past Paper P1, Q8

1. Find the equation of the line joining up $(-2, 5)$ and $(3, 15)$.

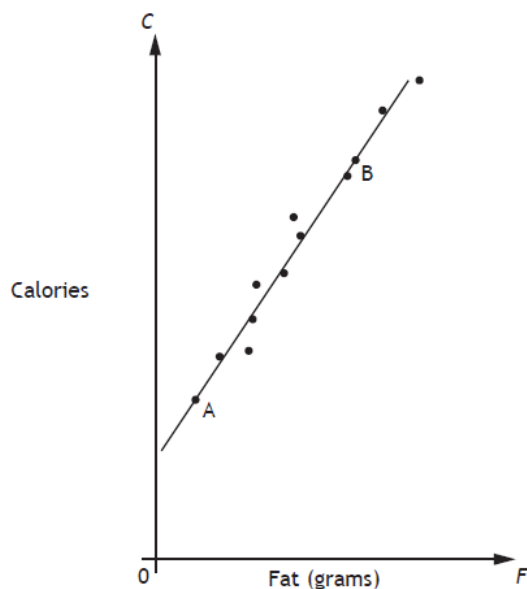
Give the equation in its simplest form.

(3 marks)

2014 N5 Past Paper P1, Q6

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 marks)

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

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

Show your working.

(1 mark)

2014 N5 Past Paper P1, Q11

3. (a) A straight line has equation $4x + 3y = 12$

Find the gradient of this straight line. (2 marks)

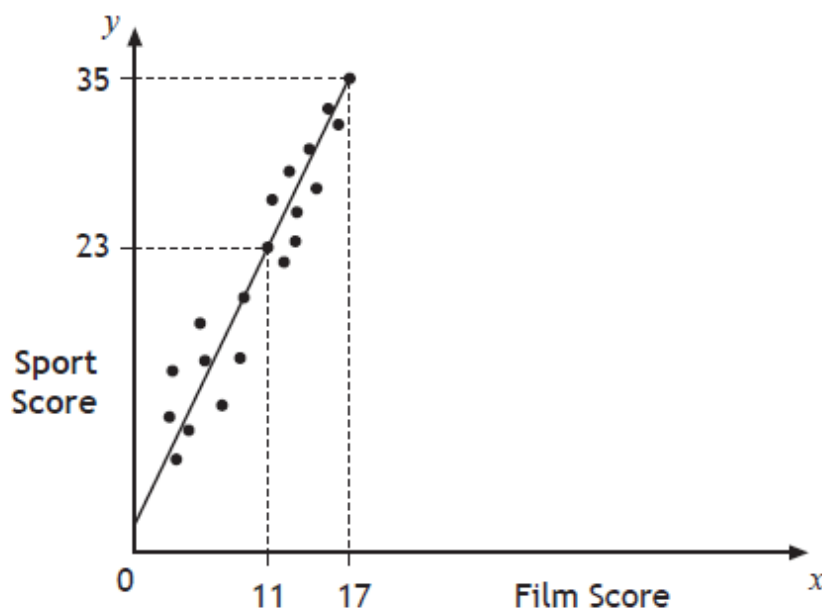
(b) Find the coordinates of the point where this line crosses the x axis.

(2 marks)

2013 N5 Specimen P1, Q6

4. Teams in a quiz answer questions on film and sport.

The scattergraph shows the scores of some of the teams.



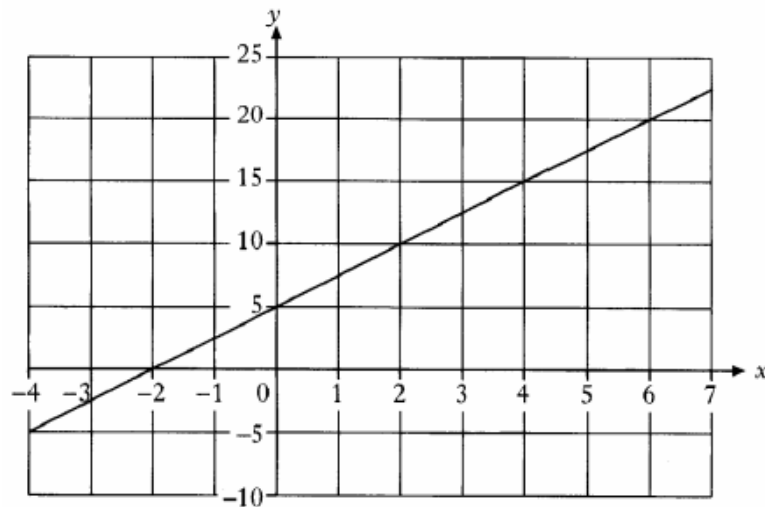
A line of best fit is drawn as shown.

(a) Find the equation of this straight line. (2 marks)

(b) Use this equation to estimate the sports score for a team with a film score of 8. (1 mark)

N5 Practice Paper B P1, Q7

5.



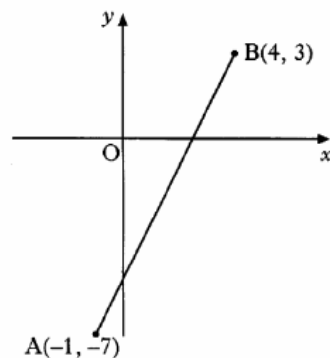
Find the equation of the straight line shown in the diagram.

Give your answer in the form $y = mx + c$

(3 marks)

N5 Practice Paper C P1, Q8

6. In the diagram below, A is the point $(-1, -7)$ and B is the point $(4, 3)$.



(a) Find the gradient of the line AB .

(1 mark)

(b) AB cuts the y -axis at the point $(0, -5)$.

Write down the equation of the line AB .

(2 marks)

(c) The point $(3k, k)$ lies on AB . Find the value of k .

(2 marks)