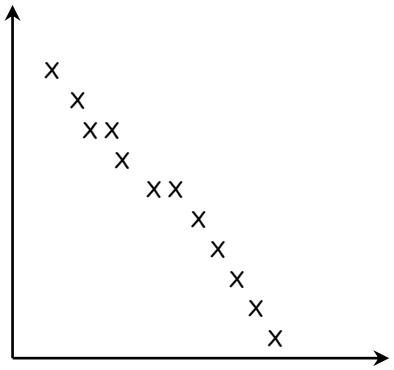
Topic Test 1 (20 minutes)

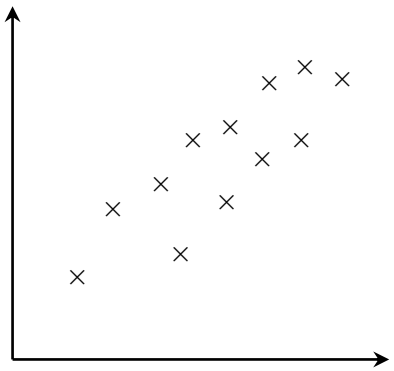
Scatter graphs - Higher

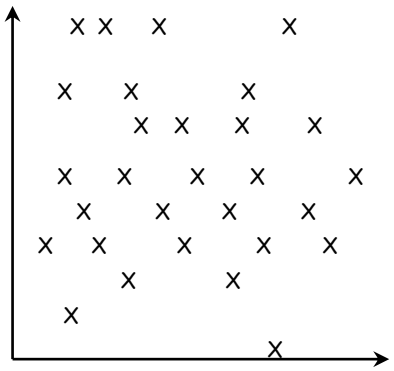
1 Match each scatter graph with a description.

The first one has been done for you.

[2 marks]



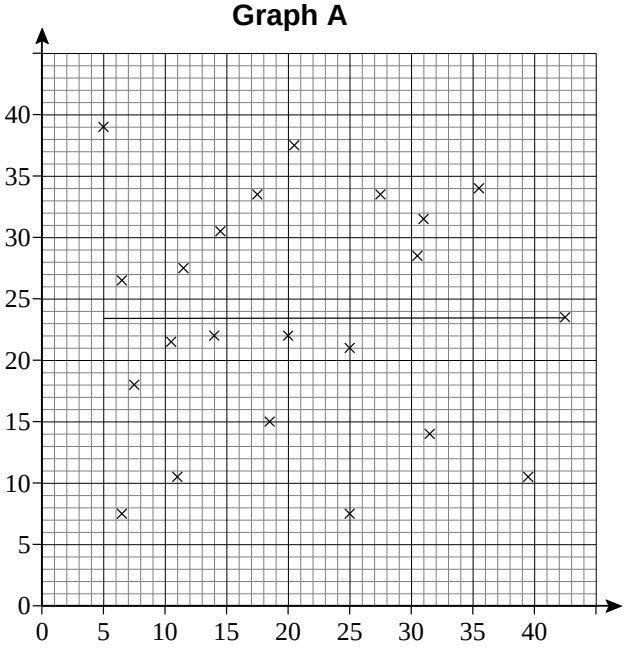




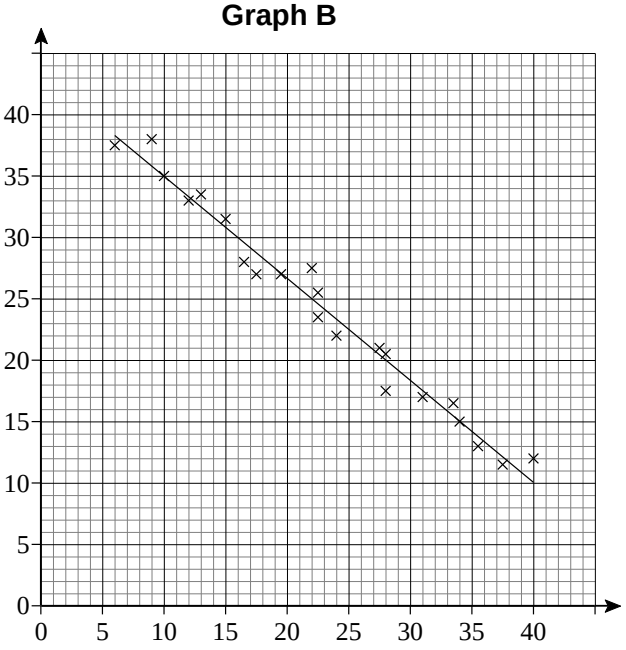
- Strong positive correlation
- Weak positive correlation
- Little or no correlation
- Weak negative correlation
- Strong negative correlation

2 Here are three scatter graphs.

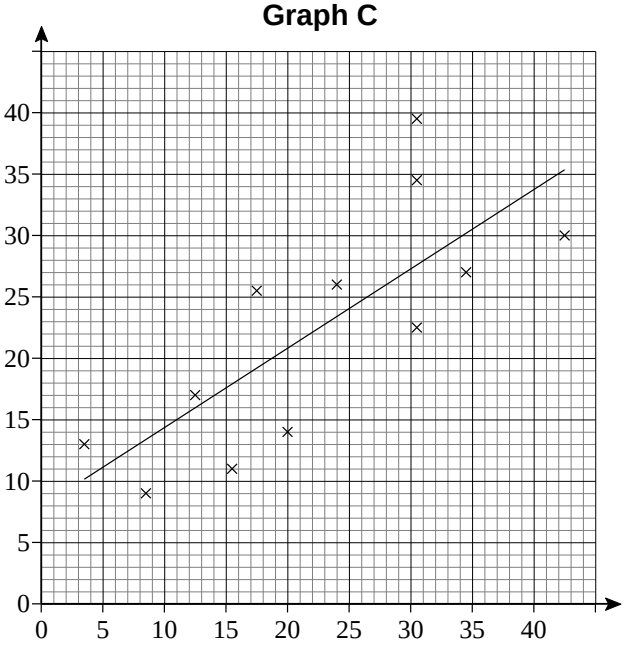
Graph A



Graph B



Graph C



2 (a) Which graph has the strongest correlation?
Circle your answer.

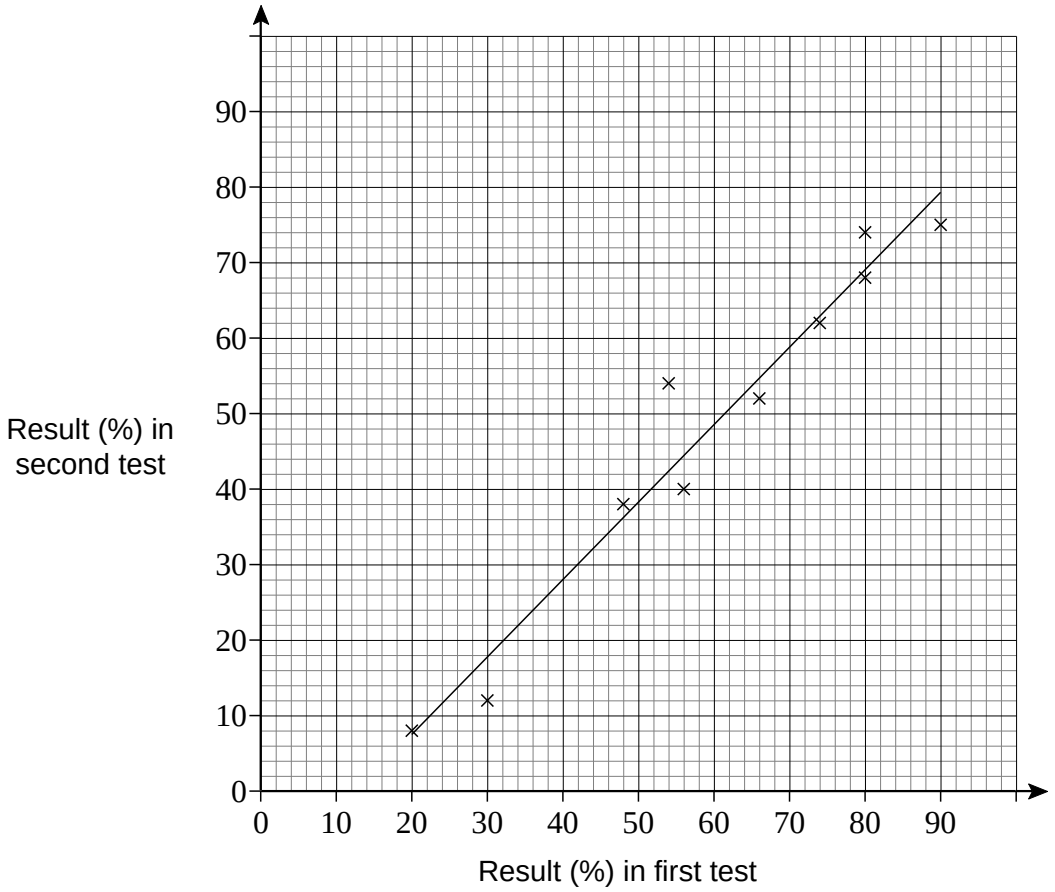
[1 mark]

A **B** **C**

2 (b) Which line of best fit should **not** have been drawn?
Give a reason for your answer.

[1 mark]

3 The scatter graph shows information about the results of 10 students in two tests.



3 (a) The data has strong positive correlation.

Describe in words the relationship between the results in the first and second tests.

[1 mark]

Answer _____

3 (b) In the first test Hana got 38%.

Estimate her mean percentage for the two tests.

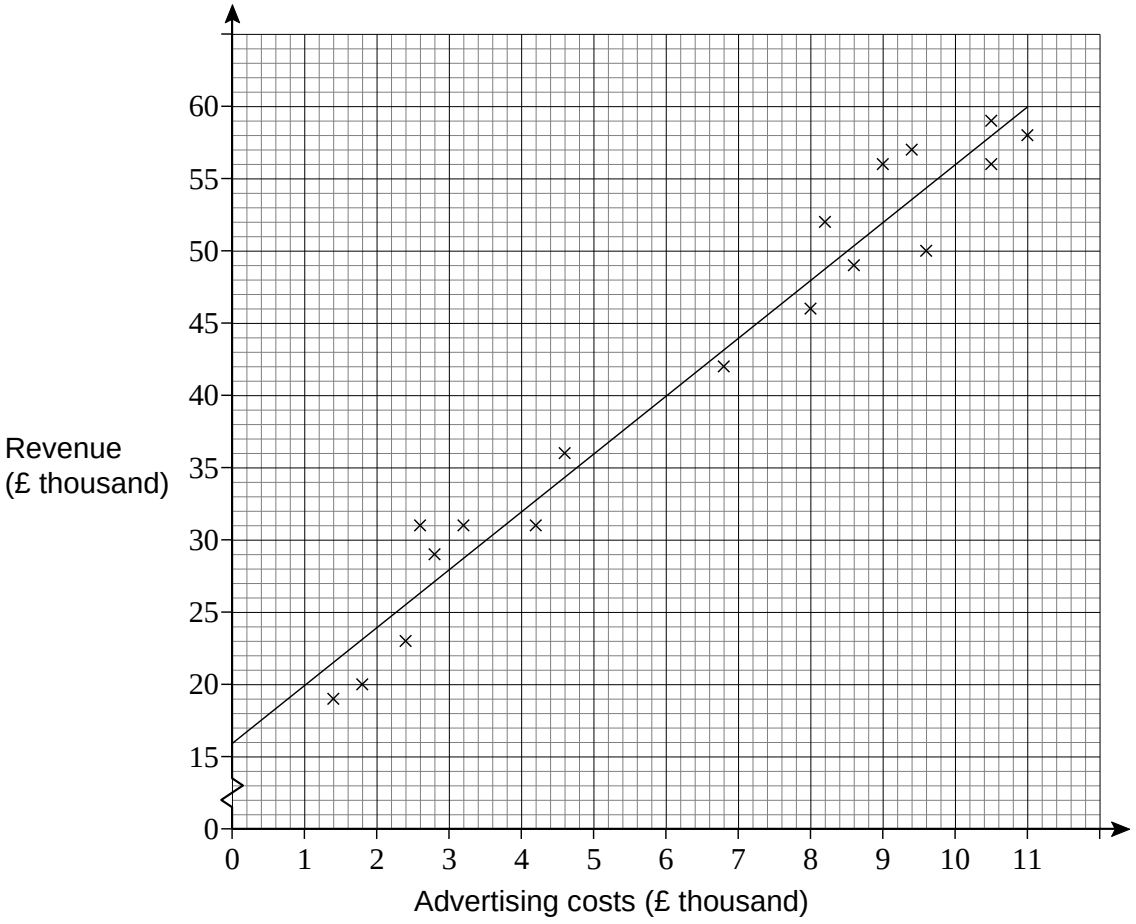
[2 marks]

_____

_____

Answer _____ %

4 The scatter diagram shows information about advertising costs and revenue for a company.



4 (a) Use the line of best fit to estimate the revenue for advertising costs of £600

[1 mark]

Answer £ _____

4 (b) Use the line of best fit to estimate the revenue for advertising costs of £6200

[1 mark]

Answer £ _____

4 (c) Which of these estimates is more reliable?
Give a reason for your answer.

[2 marks]

_____

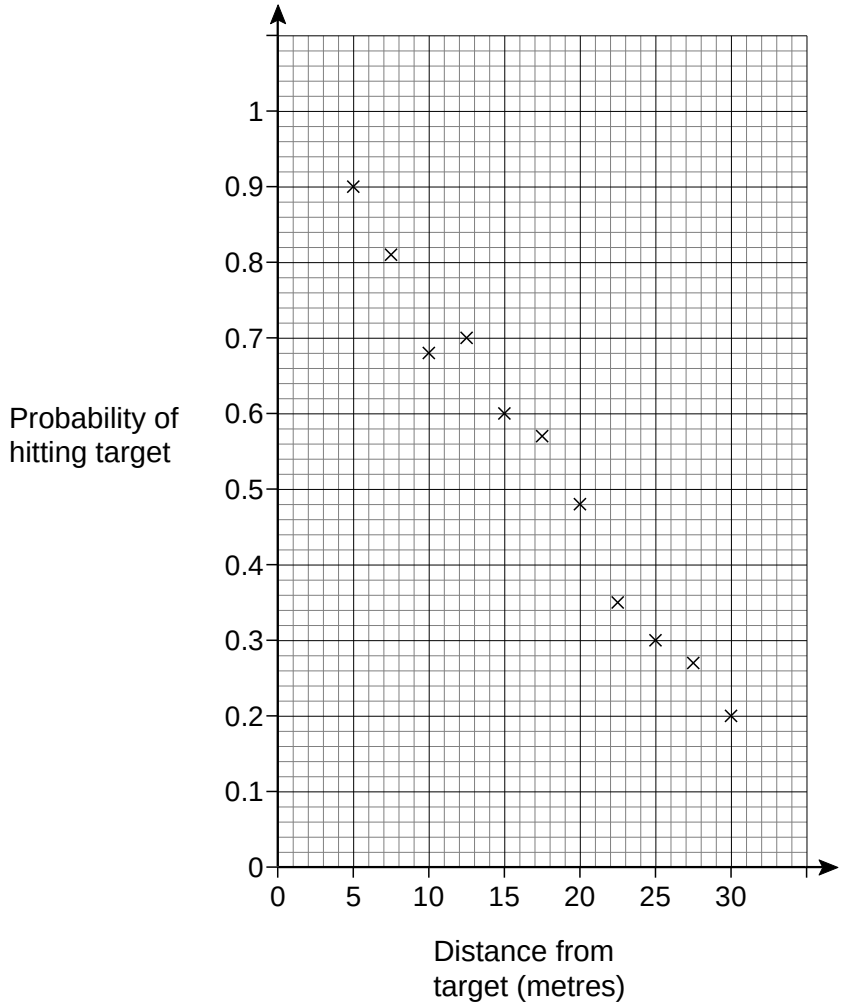
_____

_____

5 Adam wants to use an archery game at the school fair.

He asks people to shoot arrows at a target from different distances.

He obtains the following data.



He wants to make a 60% profit on what he charges players.

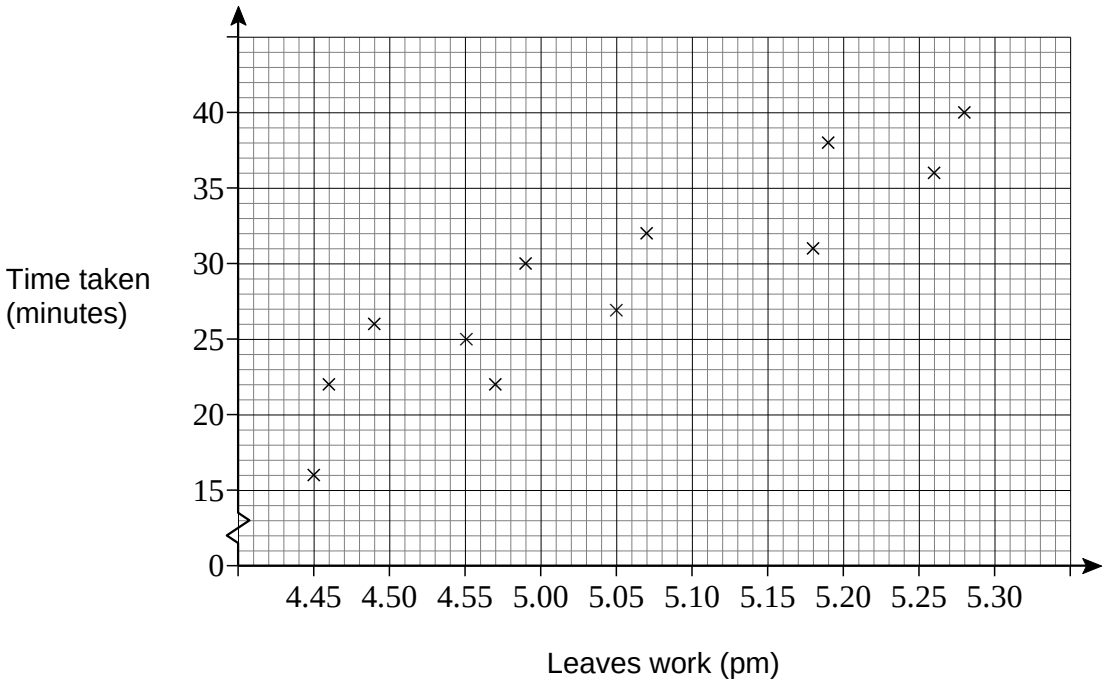
Use a line of best fit to work out how far away he should put the target.

[3 marks]

Answer _____ metres

6 Sara cycles home from work each day.

The scatter graph shows information about her journey times.



6 (a) The table shows one more set of journey times.

Leaves work (pm)	5.17
Arrives home (pm)	5.51

Complete the scatter graph using the data from the table.

[1 mark]

6 (b) Sara leaves work at 5.12 pm

Use a line of best fit to estimate the time Sara will arrive home.

[3 marks]

Answer _____ pm

6 (c) One day she works late and does not leave work until 6 pm

Write down two reasons why the scatter graph may not be useful to estimate what time she will arrive home.

[2 marks]

Reason 1

Reason 2