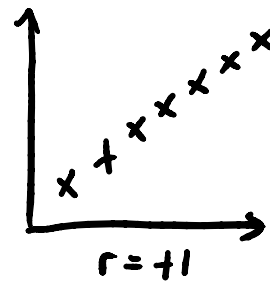
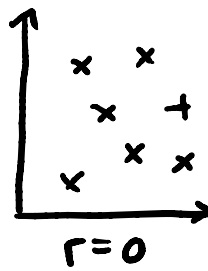


r is the variable used for the correlation coefficient

r is a value between -1 and 1

$-1 \leq r \leq 1$ and r can be any decimal value between -1 and 1



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Q1-5



T&T3 13.6



T&T3
13.6.pptx

PROJECT MATHS

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Representing Data

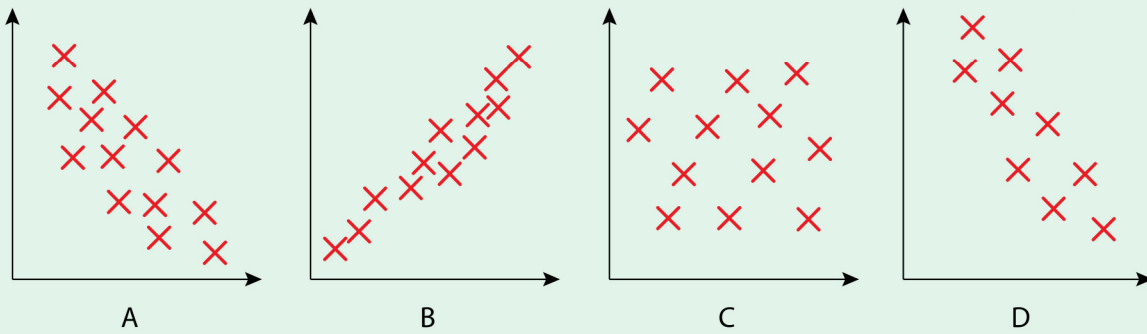
chapter

13

Section 13.6 Measuring correlation

Example 1

Shown below are four scatter graphs A, B, C and D.



Here are six correlation coefficients (i.e. values for r)

0.2, -0.8, -0.2, 0, 0.9, -0.6

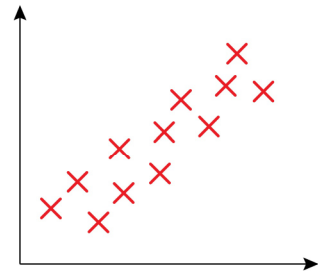
Choose the most likely correlation coefficient from these to match the scatter graphs A, B, C and D above.

Exercise 13.6

1. Describe in two words the correlation shown opposite.

Which of these numbers is the most likely to represent this correlation?

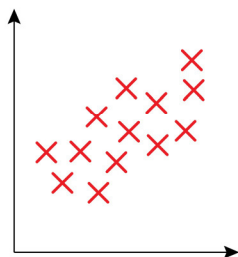
-0.8, 0.9, 0, 0.1, 0.7



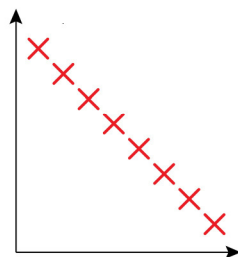
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Exercise 13.6

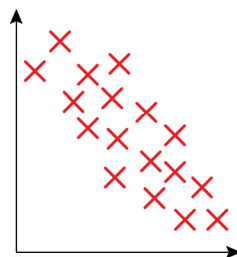
2. Four scatter graphs A, B, C and D are shown below.



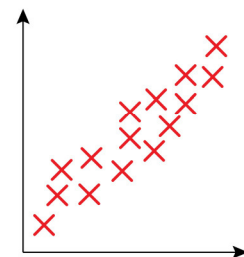
A



B



C



D

Match one of the following numbers with each of the graphs above so that it best represents the correlation:

0.1, -0.4, 1, -1, 0.6, -0.8, 0.8

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Exercise 13.6

3. Draw a separate scatter graph that might represent each of the following correlation coefficients:

(i) 1

(ii) -0.9

(iii) 0.5

(iv) 0

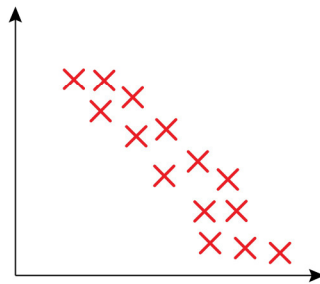
Exercise 13.6

4. Which one of these numbers represents 'strong negative correlation'?

- (i) 0.3 (ii) -0.1 (iii) 1 (iv) -0.9 (v) -0.5

Exercise 13.6

5. Which of these correlation coefficients best represents the correlation shown in the given diagram?



- (i) 0.8 (ii) -0.8 (iii) -1 (iv) 0.5

Exercise 13.6

6. Which of these correlation coefficients shows the strongest correlation?

(i) 0.7

(ii) -0.2

(iii) -1

(iv) 0.9

Exercise 13.6

7. Which of these correlation coefficients shows the weakest correlation?

- (i) -0.8 (ii) 0.1 (iii) -1 (iv) 0.9

Exercise 13.6

8. Match one of these correlation coefficients to each of the descriptions below:

0.9 , -0.1 , -1 , -0.8 , 0 , 0.2

- (i) Strong positive correlation
- (ii) Strong negative correlation
- (iii) No correlation
- (iv) Perfect negative correlation
- (v) Very weak negative correlation
- (vi) Very weak positive correlation

Answers 13.6

1. Strong positive; 0.7
2. A: 0.1; B: -1 ; C: -0.4 ; D: 0.8
4. -0.9
5. -0.8
6. -1
7. 0.1
8. (i) 0.9 (ii) -0.8 (iii) 0
(iv) -1 (v) -0.1 (vi) 0.2