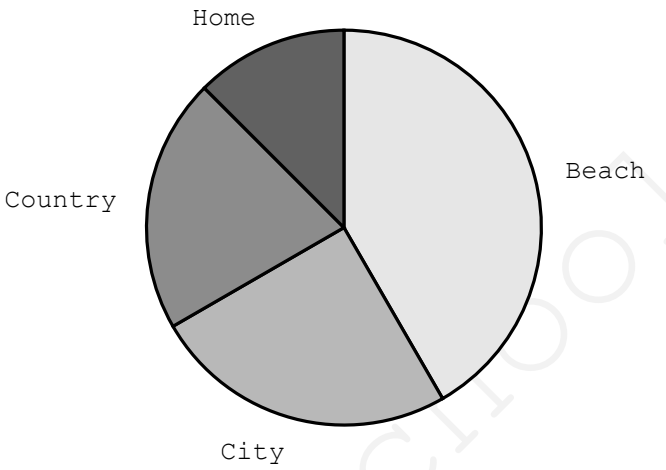
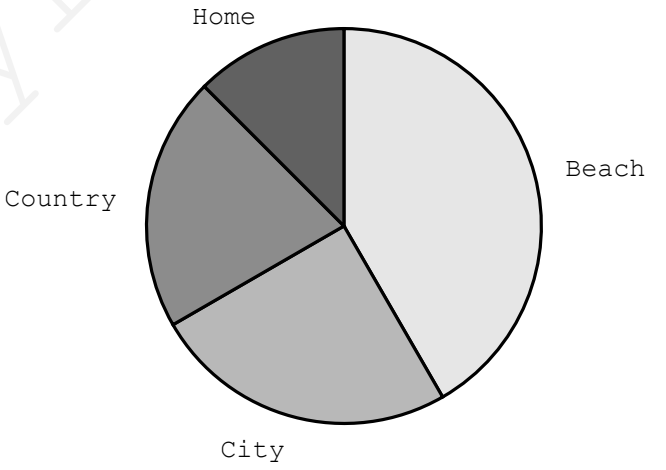
Data Handling & Probability: Hard Practice Paper 8

Q1. The pie chart shows where 720 people went on holiday. The beach sector has an angle of 150°. How many people went to the beach?



A. 150 *B.* 240 *C.* 300 *D.* 360 *E.* 450

Q2. Use the same pie chart of 720 people. 90 of them stayed at home. What is the angle of the home sector?



A. 30° *B.* 45° *C.* 60° *D.* 75° *E.* 90°

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Q3. Two schools drew pie charts of how pupils travel. School A asked 300 pupils and its walking sector is 90°. School B asked 500 pupils and its walking sector is 72°. Which school has more pupils who walk?

A. School A, because its sector is bigger

B. School B, even though its sector is smaller

C. They have the same number

D. School A, because it has fewer pupils

E. It cannot be worked out

Q4. The table groups the times 30 pupils took to run 100 metres. How many pupils took less than 20 seconds?

Time (seconds)	**10-14**	**15-19**	**20-24**	**25-29**
Pupils	5	12	9	4

A. 5 *B.* 12 *C.* 17 *D.* 21 *E.* 26

Q5. Use the same table of running times. What fraction of the pupils took 25 seconds or more?

Time (seconds)	**10-14**	**15-19**	**20-24**	**25-29**
Pupils	5	12	9	4

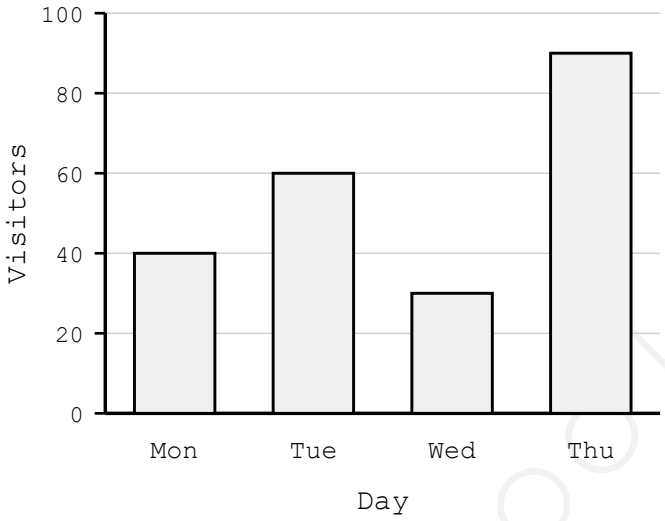
A. 1/10 *B.* 2/15 *C.* 1/6 *D.* 3/10 *E.* 4/26

Q6. Use the same table of running times. How many pupils took between 15 and 24 seconds?

Time (seconds)	**10-14**	**15-19**	**20-24**	**25-29**
Pupils	5	12	9	4

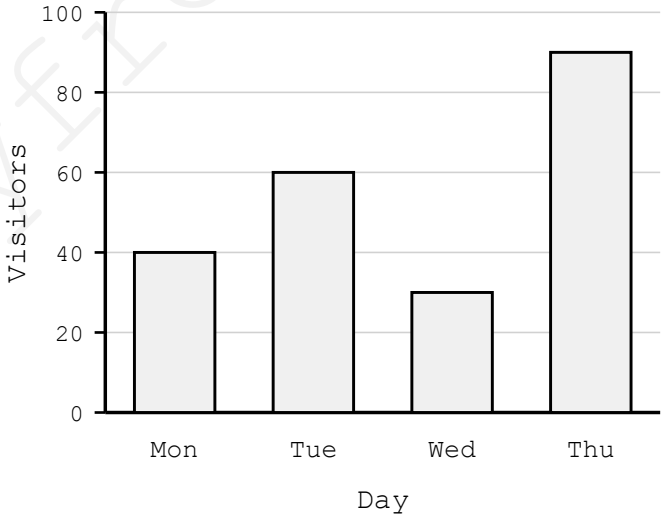
A. 9 *B.* 12 *C.* 17 *D.* 21 *E.* 25

Q7. The bar chart shows the visitors to a museum. What is the ratio of Wednesday's visitors to Thursday's visitors, in its simplest form?



A. 1:2 *B.* 1:3 *C.* 2:3 *D.* 3:1 *E.* 3:9

Q8. Use the same museum chart. Thursday had what percentage more visitors than Tuesday?



A. 30% *B.* 33% *C.* 50% *D.* 60% *E.* 150%

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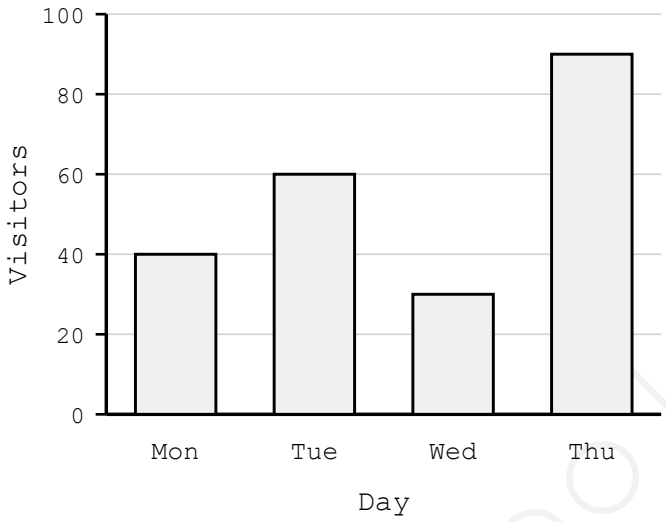
Q9. Use the same museum chart. Which of these statements is definitely true?



A. Thursday had more visitors than Monday and Wednesday together

B. Tuesday had twice as many visitors as Monday

C. The museum had 200 visitors over the four days

D. Wednesday was half as busy as Monday

E. Every day had at least 40 visitors

Q10. A pictogram uses the same symbol throughout, and 3 symbols stand for 18 books. How many books do 4 and a half symbols stand for?

A. 21 *B.* 24 *C.* 27 *D.* 30 *E.* 36

Q11. Team A scored 3, 4, 4, 5 and 9 in five matches. Team B scored 4, 5, 5, 5 and 6. Which statement is true?

A. Both teams have the same mean, but Team B is more consistent

B. Team A has the higher mean

C. Team B has the higher mean

D. Both teams have the same range

E. Team A is the more consistent

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Q12. A newspaper draws a bar chart of sales for four shops, but starts the vertical axis at 90 instead of 0. What is the effect on the chart?

A. The differences between the shops look far bigger than they are

B. The differences between the shops look smaller than they are

C. The sales figures themselves are changed

D. The bars all become the same height

E. There is no effect on how the chart looks

Q13. A school asks: "Do you agree that our excellent library should stay open later?" What is wrong with this survey question?

A. It is too short to be a fair question

B. It should have been asked in writing

C. It asks about two different things at once

D. There is nothing wrong with it

E. It pushes people towards agreeing by calling the library excellent

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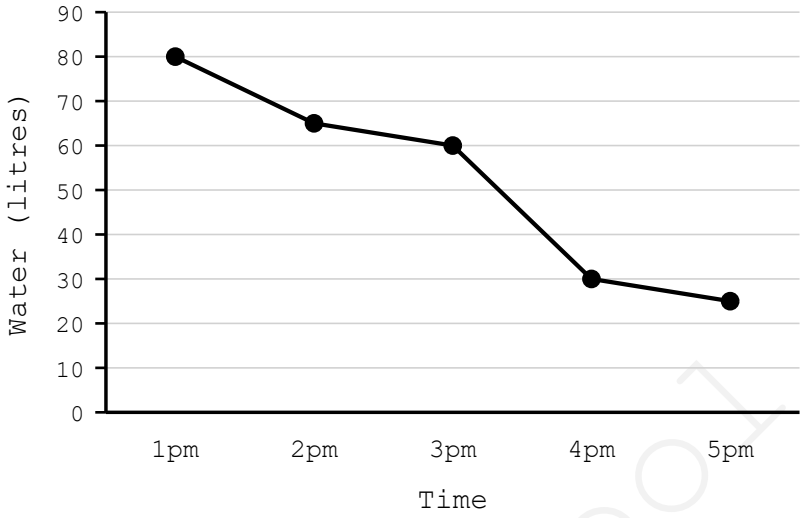
Q14. The line graph shows the water in a tank during the afternoon. During which hour did the tank lose the most water?



A. 1pm to 2pm

B. 2pm to 3pm

C. 3pm to 4pm

D. 4pm to 5pm

E. The loss was the same each hour

Q15. A factory tests its output and finds that 3 in every 50 items are faulty. In a day it makes 2,000 items. How many faulty items would be expected?

A. 60 *B.* 100 *C.* 120 *D.* 150 *E.* 600

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