**Histograms Exam Questions**

**1.** One Monday, Victoria measured the time, in seconds, that individual birds spent on her bird table.

She used this information to complete the frequency table.

|  |  |
| --- | --- |
| Time (*t* seconds) | Frequency |
| 0 < *t* ≤ 10 | 8 |
| 10 < *t* ≤ 20 | 16 |
| 20 < *t* ≤ 25 | 15 |
| 25 < *t* ≤ 30 | 12 |
| 30 < *t* ≤ 50 | 6 |

(a) Use the table to complete the histogram.



(3)

On Tuesday she conducted a similar survey and drew the following histogram from her results.



(b) Use the histogram for Tuesday to complete the table.

|  |  |
| --- | --- |
| Time (*t* seconds) | Frequency |
| 0 < *t* ≤ 10 | 10 |
| 10 < *t* ≤ 20 |  |
| 20 < *t* ≤ 25 |  |
| 25 < *t* ≤ 30 |  |
| 30 < *t* ≤ 50 |  |

(2)

(Total 5 marks)

**2.** This histogram gives information about the books sold in a bookshop one Saturday.



(a) Use the histogram to complete the table.

|  |  |
| --- | --- |
| **Price** **(*P*)** **in** **pounds** **(£)** | **Frequency** |
| 0 < *P* ≤ 5 |  |
| 5 < *P* ≤ 10 |  |
| 10 < *P* ≤ 20 |  |
| 20 < *P* ≤ 40 |  |

(2)

The frequency table below gives information about the books sold in a second bookshop on the same Saturday.

|  |  |
| --- | --- |
| **Price** **(*P*)** **in** **pounds** **(£)** | **Frequency** |
| 0 < *P* ≤ 5 | 80 |
| 5 < *P* ≤ 10 | 20 |
| 10 < *P* ≤ 20 | 24 |
| 20 < *P* ≤ 40 | 96 |

(b) On the grid below, draw a histogram to represent the information about the books sold in the second bookshop.



(3)

(Total 5 marks)

**3.** Fred did a survey on the areas of pictures in a newspaper.  
The table gives information about the areas.

|  |  |
| --- | --- |
| Area (*A* cm2) | Frequency |
| 0< *A* ≤ 10 | 38 |
| 10 < A ≤ 25 | 36 |
| 25 < *A* ≤ 40 | 30 |
| 40 < *A* ≤ 60 | 46 |

Draw a histogram for the information given in the table.



(Total 3 marks)

**4.** The table shows the distribution of the ages of passengers travelling on a plane from London to Belfast.

|  |  |
| --- | --- |
| Age (*x* years) | Frequency |
| 0 < *x* ≤ 20 | 28 |
| 20 < *x* ≤ 35 | 36 |
| 35 < *x* ≤ 45 | 20 |
| 45 < *x* ≤ 65 | 30 |

On the grid below, draw a histogram to show this distribution.



(Total 3 marks)

**5.** A teacher asked some year 10 students how long they spent doing homework each night.  
The histogram was drawn from this information.



Use the histogram to complete the table.

|  |  |
| --- | --- |
| Time (*t* minutes) | Frequency |
| 10 ≤ *t* < 15 | 10 |
| 15 ≤ *t* < 30 |  |
| 30 ≤ *t* < 40 |  |
| 40 ≤ *t* < 50 |  |
| 50 ≤ *t* < 70 |  |

(Total 2 marks)

**6.** Some students at Highfliers School took a mathematics examination.  
The unfinished table and histogram show some information about their marks.

|  |  |
| --- | --- |
| Mark (*x*%) | Frequency |
| 0 < *x* ≤ 40 | 10 |
| 40 < *x* ≤ 60 | 40 |
| 60 < *x* ≤ 75 | 45 |
| 75 < *x* ≤ 85 | 60 |
| 85 < *x* ≤ 95 |  |
| 95 < *x* ≤ 100 | 25 |



(a) Use the information in the table to complete the histogram.

(1)

(b) Use the information in the histogram to complete the table.

(1)

(Total 2 marks)

**7.** The table gives information about the number of hours worked by some factory workers.

|  |  |
| --- | --- |
| Number of hours *(n)* worked | Frequency |
| *0 < n ≤* 5 | 15 |
| 5 *< n ≤* 15 | 42 |
| 15 *< n* ≤ 35 | 40 |
| 35 < *n* ≤ 50 | 6 |

Use the table to draw a histogram.



(Total 3 marks)

**8.** Sam asks some students how long they took to finish their science homework.  
The table and histogram show some of this information.

|  |  |
| --- | --- |
| **Time (minutes)** | **Frequency** |
| 5 < *x* ≤ 10 |  |
| 10 < *x* ≤ 15 | 20 |
| 15 < *x* ≤ 25 |  |
| 25 < *x* ≤ 35 | 50 |
| 35 < *x* ≤ 50 | 15 |



(a) Use the information in the histogram to complete the table.

(2)

(b) Use the information in the table to complete the histogram.

(2)

(Total 4 marks)