

MATHS

BOOKS - SELINA MATHS (ENGLISH)

GRAPHICAL REPRESENTATION

Example

1. Draw a histogram to represent the following

| | | | | | |
|----------------|-------|--------|---------|---------|---------|
| Class interval | 0 – 8 | 8 – 16 | 16 – 24 | 24 – 32 | 32 – 40 |
| Frequency | 6 | 9 | 12 | 10 | 5 |



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2. Draw a histogram to represent the following

| | | | | | |
|-------------------|-----------|-----------|-----------|-----------|-------|
| Pocket money in ₹ | 150 – 200 | 200 – 250 | 250 – 300 | 300 – 350 | 350 – |
| Frequency | 10 | 5 | 7 | 14 | 3 |



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3. Draw a histogram for the following

| | | | | | |
|----------------|---------|---------|---------|---------|---------|
| Class interval | 11 – 20 | 21 – 30 | 31 – 40 | 41 – 50 | 51 – 60 |
| Frequency | 5 | 8 | 13 | 10 | 6 |



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4. Draw the histogram for the following

| | | | | | |
|------------|----|----|----|----|----|
| Class mark | 25 | 35 | 45 | 55 | 65 |
| Frequency | 7 | 15 | 18 | 12 | 8 |



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5. Draw a cumulative frequency curve (ogive) for the following distribution

| | | | | | |
|-----------------|--------|---------|---------|---------|---------|
| Mark | 5 – 10 | 10 – 15 | 15 – 20 | 20 – 25 | 25 – 30 |
| no. of students | 7 | 9 | 12 | 8 | 6 |



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Exercise 23

1. Draw histograms for the following frequency distributions :

| | | | | | | |
|----------------|--------|---------|---------|---------|---------|---------|
| Class interval | 0 – 10 | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 |
| Frequency | 12 | 20 | 26 | 18 | 10 | 6 |



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2. Draw histograms for the following frequency distributions :

| | | | | | |
|----------------|---------|---------|---------|---------|---------|
| Class interval | 10 – 16 | 16 – 22 | 22 – 28 | 28 – 34 | 34 – 40 |
| Frequency | 15 | 23 | 30 | 20 | 16 |



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3. Draw histograms for the following frequency distributions :

| | | | | | |
|----------------|---------|---------|---------|---------|---------|
| Class interval | 30 – 39 | 40 – 49 | 50 – 59 | 60 – 69 | 70 – 79 |
| Frequency | 24 | 16 | 09 | 15 | 20 |



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4. Draw a cumulative frequency curve (ogive) for each of the following distributions :

| | | | | | | |
|----------------|---------|---------|---------|---------|---------|---------|
| Class interval | 10 – 15 | 15 – 20 | 20 – 25 | 25 – 30 | 30 – 35 | 35 – 40 |
| Frequency | 10 | 15 | 17 | 12 | 10 | 8 |



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5. Draw a cumulative frequency curve (ogive) for each of the following distributions :

| | | | | | |
|----------------|---------|---------|---------|---------|---------|
| Class interval | 10 – 19 | 20 – 29 | 30 – 39 | 40 – 49 | 50 – 59 |
| Frequency | 23 | 16 | 15 | 20 | 12 |



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6. Draw an ogive for each of the following distributions

| | | | | |
|-----------------|--------------|--------------|--------------|--------------|
| Marks obtained | less than 10 | less than 20 | less than 30 | less than 50 |
| No. of students | 8 | 25 | 38 | 50 |



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7. Draw an ogive for each of the following distributions

| | | | | | | | |
|---------------------------|----|----|----|----|----|----|----|
| Age in years (less than) | 10 | 20 | 30 | 40 | 50 | 60 | 70 |
| Cumulative frequency | 0 | 17 | 32 | 37 | 53 | 58 | 65 |

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| | | | | | | | | |
|----|------------|------|------|------|------|------|------|------|
| 8. | Class mark | 12.5 | 17.5 | 22.5 | 27.5 | 32.5 | 37.5 | 42.5 |
| | Frequency | 12 | 17 | 22 | 27 | 30 | 21 | 16 |

From the distribution, given above construct a frequency table

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9. The following table shows the distribution of the heights of a group of factory workers :

Determine the cumulative frequencies

| | | | | | |
|----------------|-----------|-----------|-----------|-----------|-----------|
| Ht. (cm): | 150 – 155 | 155 – 160 | 160 – 165 | 165 – 170 | 170 – 175 |
| No. of workers | 6 | 12 | 18 | 20 | 13 |

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10. The following table shows the distribution of the heights of a group of factory workers :

Draw the 'less than' cumulative frequency curve on graph paper . Use 2 cm = 5 cm height on one axis and 2 cm = 10 workers on the other

| | | | | | | |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Ht. (cm): | 150 – 155 | 155 – 160 | 160 – 165 | 165 – 170 | 170 – 175 | 175 – 180 |
| No. of workers | 6 | 12 | 18 | 20 | 13 | 5 |

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11. Construct a frequency distribution table for each of the following distributions

| | | | | | | | | | | |
|----------------------|---|----|----|----|----|----|-----|-----|-----|-----|
| Marks (less than) | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
| Cumulative Frequency | 0 | 7 | 28 | 54 | 71 | 84 | 105 | 147 | 180 | 196 |

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12. Construct a frequency distribution table for each of the following distributions

| | | | | | | | | | | | |
|----------------------|-----|----|----|----|----|----|----|----|----|----|-----|
| Marks (more than) | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Cumulative Frequency | 100 | 87 | 65 | 55 | 42 | 36 | 31 | 21 | 18 | 7 | 0 |



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