



Drawing Histograms



← REVISE THIS TOPIC

1 The table gives information about the mass, in kg, of 60 dogs.

| Mass (m kg) | Frequency |
|------------------|-----------|
| $0 < m \leq 5$ | 18 |
| $5 < m \leq 15$ | 28 |
| $15 < m \leq 25$ | 9 |
| $25 < m \leq 50$ | 5 |

Frequency Density

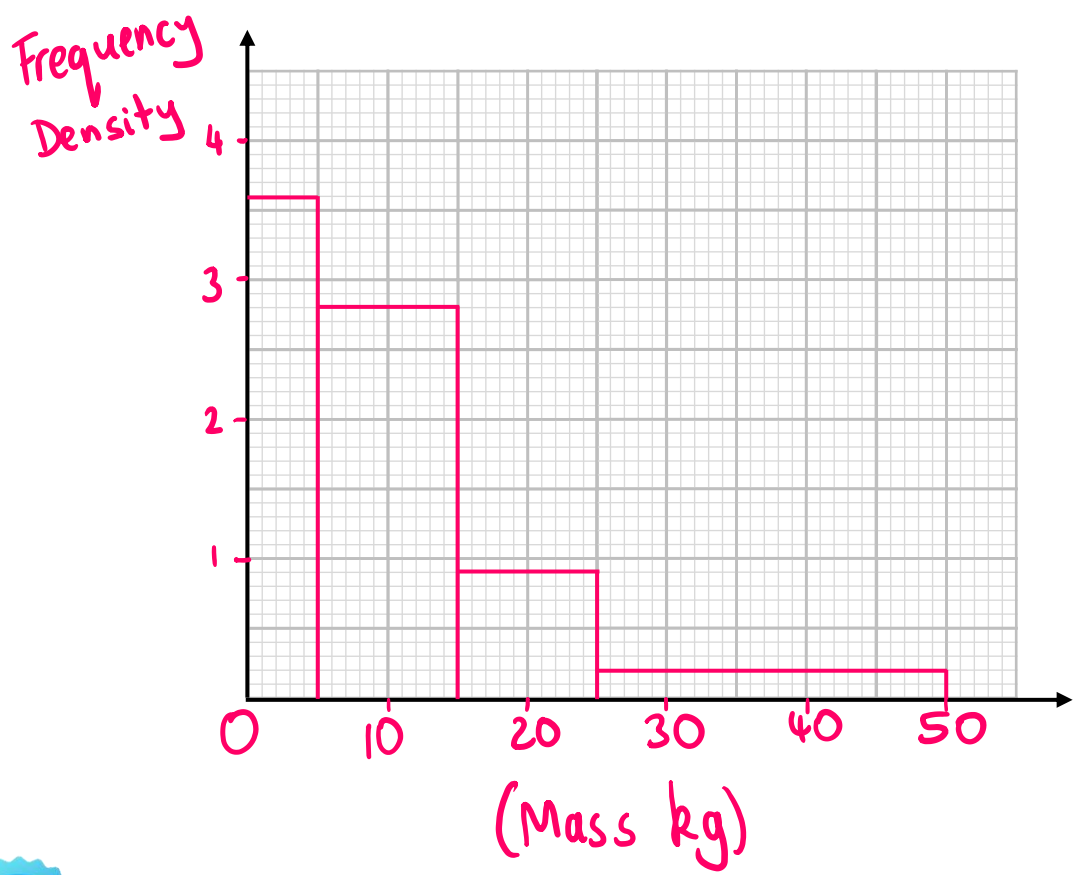
$18 \div 5 = 3.6$

$28 \div 10 = 2.8$

$9 \div 10 = 0.9$

$5 \div 25 = 0.2$

On the grid, draw a histogram for this information.



(Total for Question 1 is 3 marks)

2 The table gives information about the speeds, in mph, of 50 vehicles on a road.

| Speed (S mph) | Frequency |
|------------------|-----------|
| $30 < S \leq 40$ | 8 |
| $40 < S \leq 45$ | 27 |
| $45 < S \leq 50$ | 13 |
| $50 < S \leq 70$ | 2 |

Frequency Density

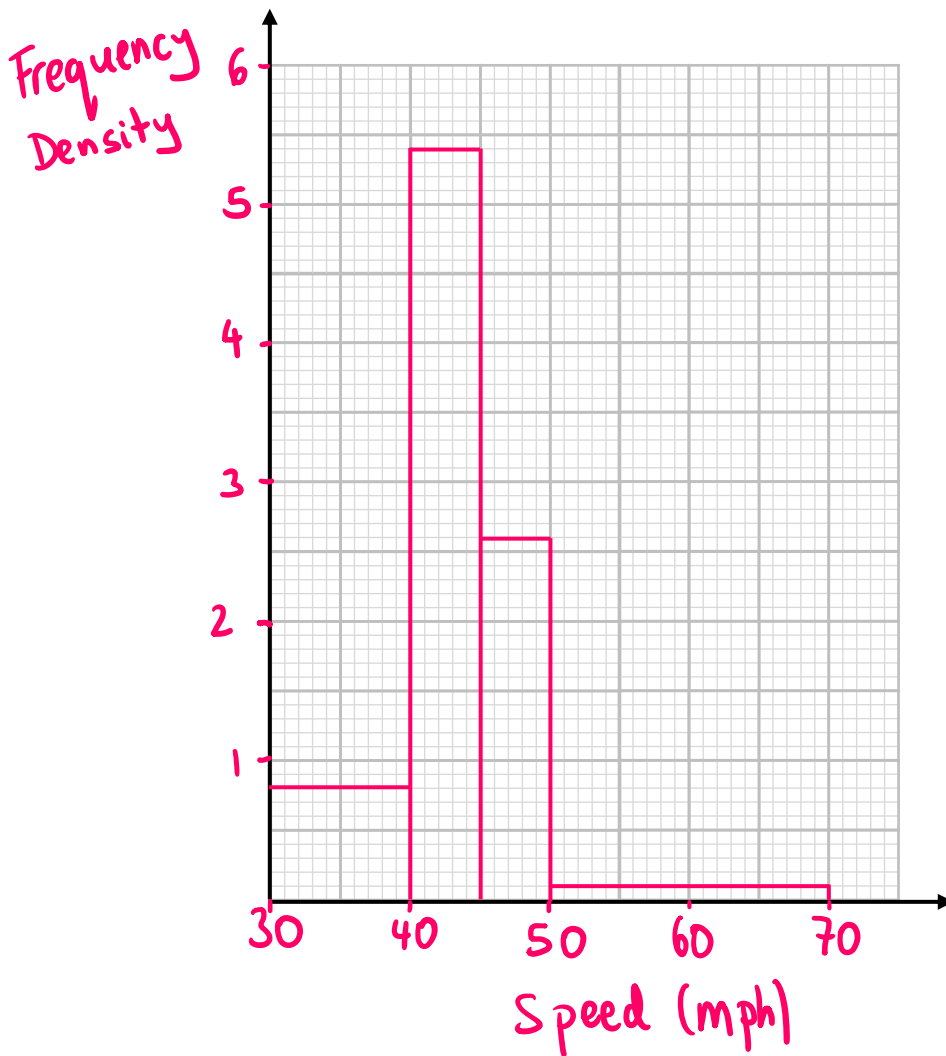
$$8 \div 10 = 0.8$$

$$27 \div 5 = 5.4$$

$$13 \div 5 = 2.6$$

$$2 \div 20 = 0.1$$

On the grid, draw a histogram for this information.



(Total for Question 2 is 3 marks)

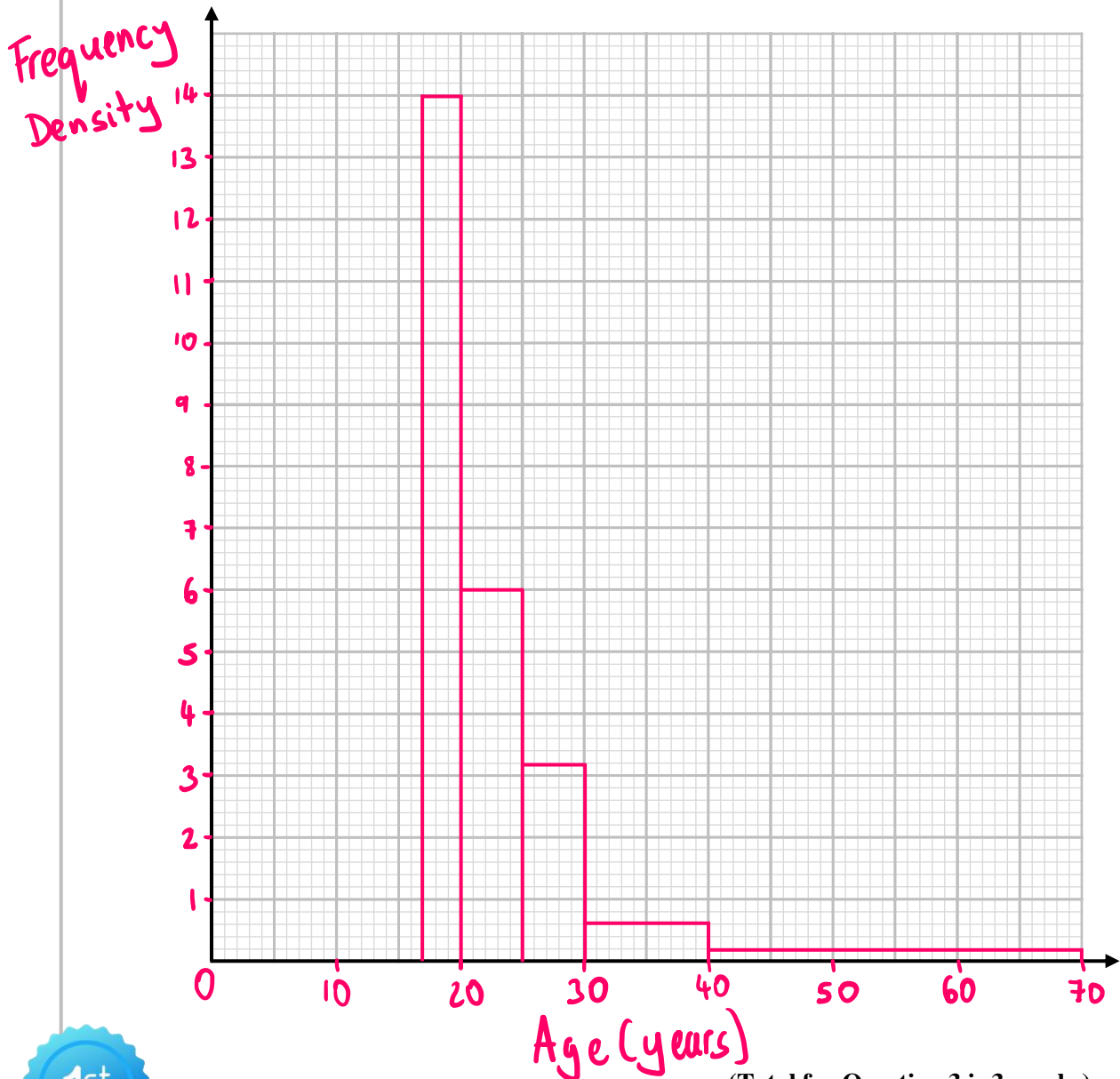


3 The table gives information about the ages, in years, of 100 people taking their driving test on one day.

| Age (A years) | Frequency |
|------------------|-----------|
| $17 < A \leq 20$ | 42 |
| $20 < A \leq 25$ | 30 |
| $25 < A \leq 30$ | 16 |
| $30 < A \leq 40$ | 6 |
| $40 < A \leq 70$ | 6 |

Frequency Density
 $42 \div 3 = 14$
 $30 \div 5 = 6$
 $16 \div 5 = 3.2$
 $6 \div 10 = 0.6$
 $6 \div 30 = 0.2$

On the grid, draw a histogram for this information.



(Total for Question 3 is 3 marks)

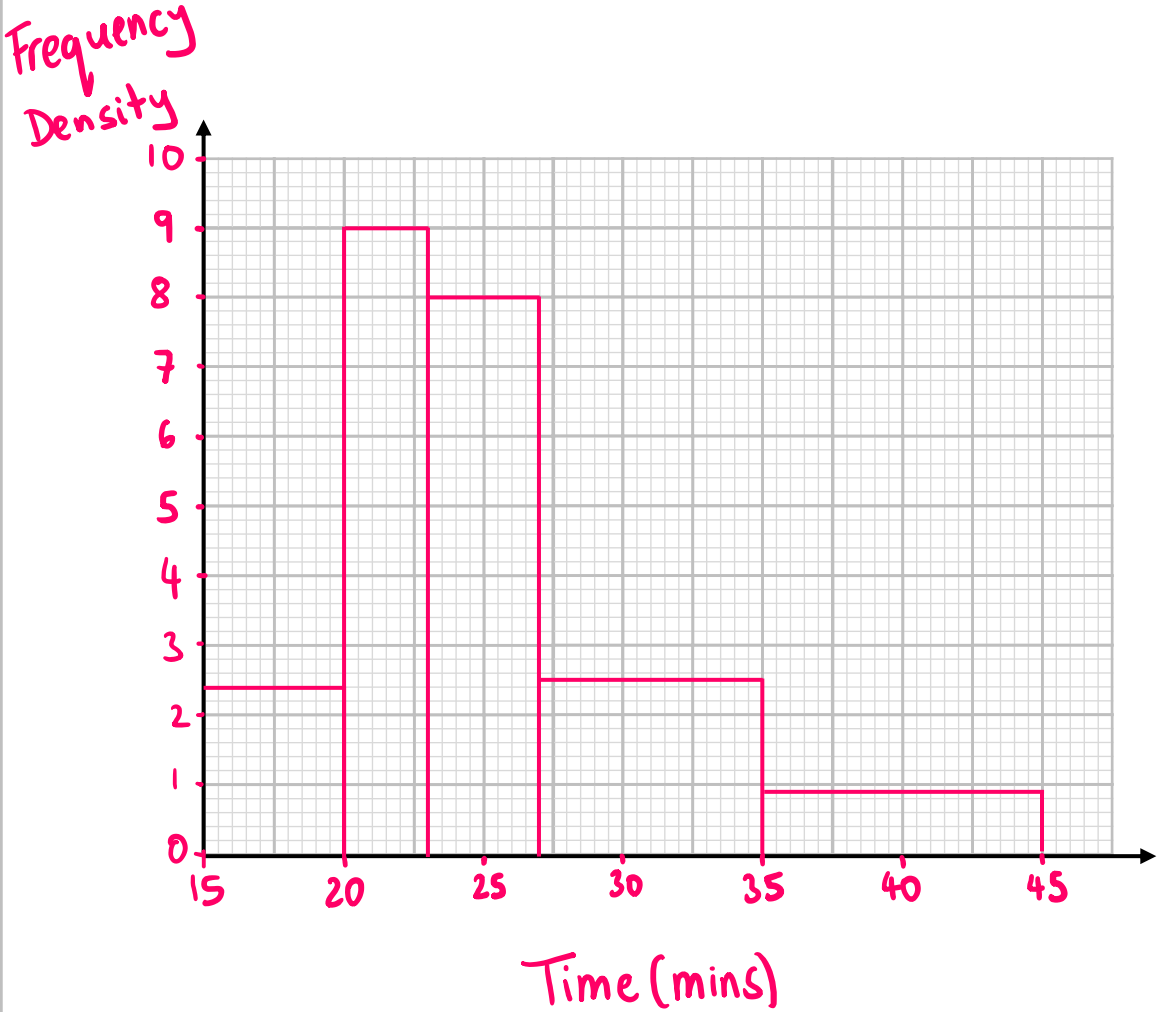


4 The table gives information about the times, in minutes, of 100 runners to complete a race.

| Time (t minutes) | Frequency |
|---------------------|-----------|
| $15 < t \leq 20$ | 12 |
| $20 < t \leq 23$ | 27 |
| $23 < t \leq 27$ | 32 |
| $27 < t \leq 35$ | 20 |
| $35 < t \leq 45$ | 9 |

Frequency Density
 $12 \div 5 = 2.4$
 $27 \div 3 = 9$
 $32 \div 4 = 8$
 $20 \div 8 = 2.5$
 $9 \div 10 = 0.9$

On the grid, draw a histogram for this information.

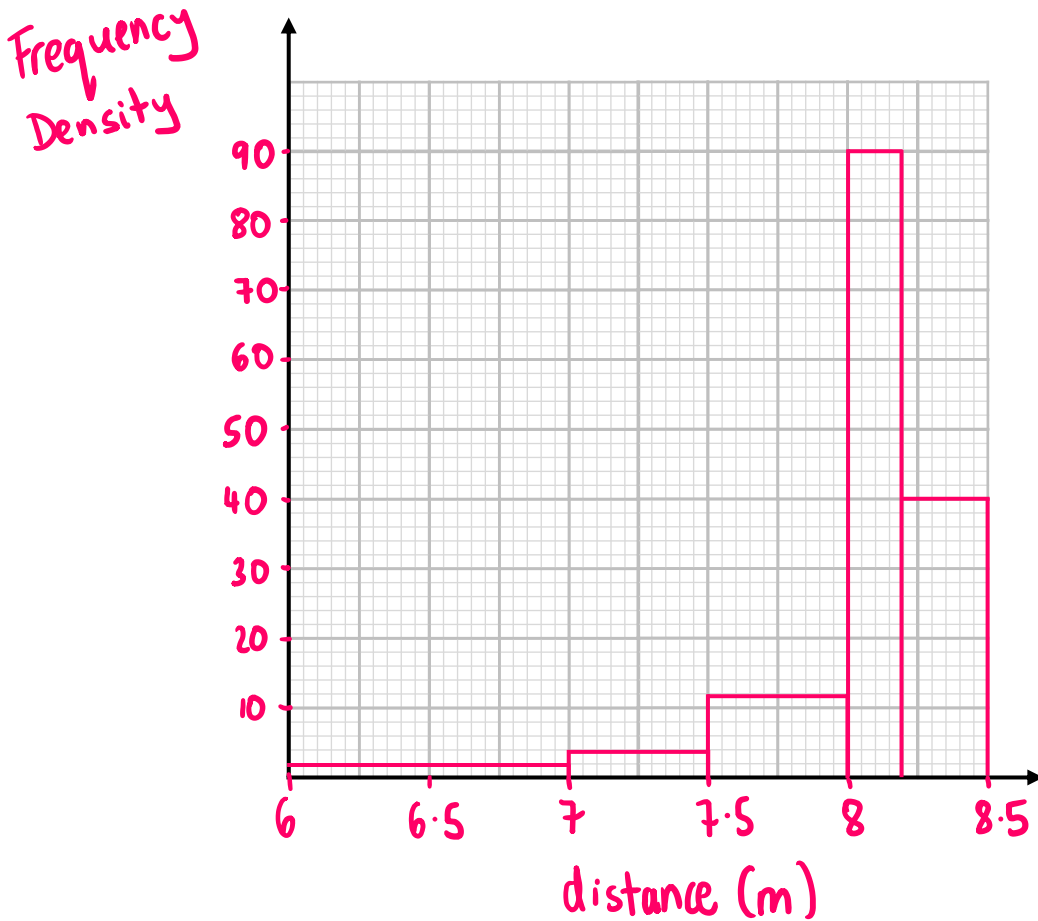


(Total for Question 4 is 3 marks)

5 The table gives information about the distance, in metres, of 40 jumps by a longer jumper.

| Distance (d metres) | Frequency | Frequency Density |
|------------------------|-----------|--------------------|
| $6 < d \leq 7$ | 2 | $2 \div 1 = 2$ |
| $7 < d \leq 7.5$ | 2 | $2 \div 0.5 = 4$ |
| $7.5 < d \leq 8$ | 6 | $6 \div 0.5 = 12$ |
| $8 < d \leq 8.2$ | 18 | $18 \div 0.2 = 90$ |
| $8.2 < d \leq 8.5$ | 12 | $12 \div 0.3 = 40$ |

On the grid, draw a histogram for this information.



(Total for Question 5 is 3 marks)



6 The table gives information about the heights, in metres, of 70 trees in a park.

| Height (h metres) | Frequency |
|----------------------|-----------|
| $0 < h \leq 10$ | 16 |
| $10 < h \leq 15$ | 28 |
| $15 < h \leq 25$ | 14 |
| $25 < h \leq 40$ | 12 |

Frequency Density
 $16 \div 10 = 1.6$
 $28 \div 5 = 5.6$
 $14 \div 10 = 1.4$
 $12 \div 15 = 0.8$

On the grid, draw a histogram for this information.



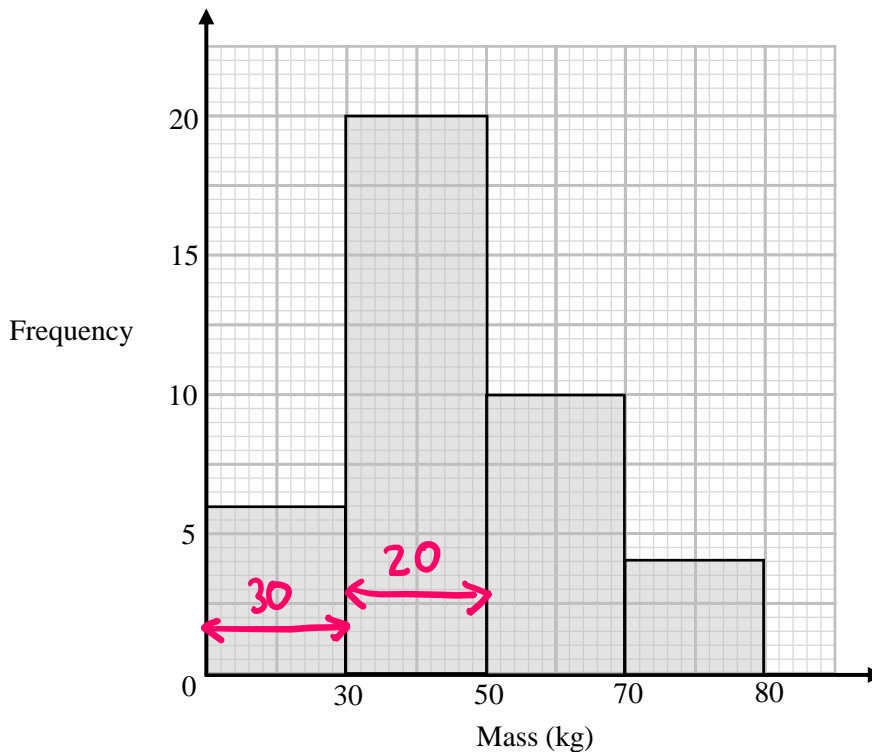
(Total for Question 6 is 3 marks)



7 The table gives information about the mass, in kg, of 40 sheep.

| Mass (m kg) | Frequency |
|------------------|-----------|
| $0 < m \leq 30$ | 6 |
| $30 < m \leq 50$ | 20 |
| $50 < m \leq 70$ | 10 |
| $70 < m \leq 80$ | 4 |

Shaun drew a histogram for the information in the table.



Write down two mistakes that Shaun has made

- 1 Shaun has plotted frequency rather than frequency density
- 2 The scale for mass is not consistent. In the first bar 2 squares = 30 but the next bar 2 squares = 20



(Total for Question 7 is 2 marks)