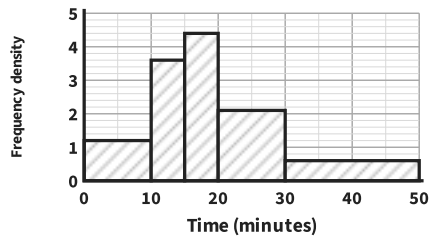


Histograms *stretch*

ANSWERS 

1

The histogram shows how long some people waited for a train. How many people waited altogether?

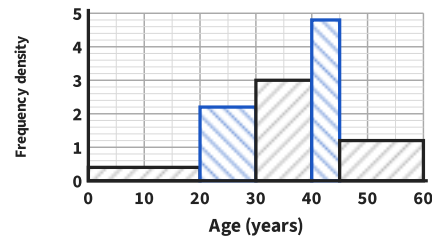


Areas: $12 + 18 + 22 + 21 + 12$

Answer 85 people

2

The histogram shows the ages of the members of a choir. 22 members are in the class $20 < a \leq 30$ and 24 in the class $40 < a \leq 45$. Draw these two bars.

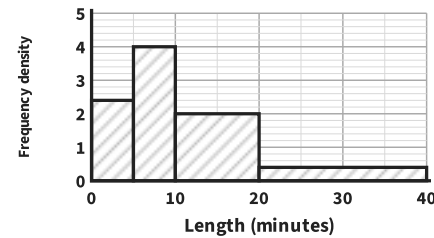


$22 \div 10 = 2.2$ and $24 \div 5 = 4.8$

Heights heights 2.2 and 4.8

3

The histogram shows the lengths of calls to a helpline. One call is picked at random. Find the probability it lasted over 10 minutes.



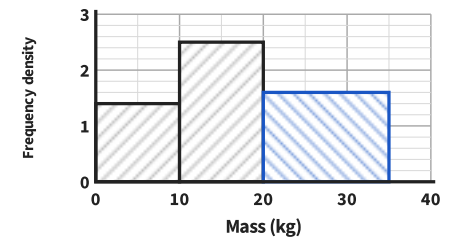
Total 60; more than 10 minutes: $20 + 8 = 28$

$$\frac{28}{60} = \frac{7}{15}$$

Probability $\frac{7}{15}$

4

The histogram shows the masses of parcels. The class $20 < m \leq k$ has 24 parcels and a frequency density of 1.6. Find k and draw the bar.



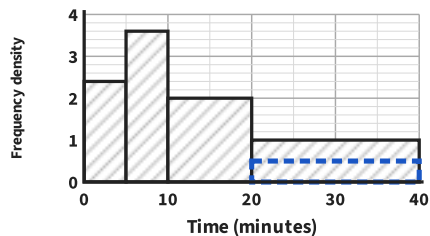
Class width = $24 \div 1.6 = 15$

$20 + 15 = 35$

Answer $k = 35$

5

Ella drew this histogram for 60 times: 12 in $0 < t \leq 5$, 18 in $5 < t \leq 10$, 20 in $10 < t \leq 20$, 10 in $20 < t \leq 40$. Which bar is wrong? Explain.



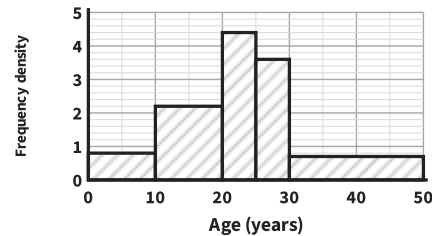
She did $10 \div 10 = 1$, but the class width is 20

$10 \div 20 = 0.5$

Answer 20 to 40: height 0.5

6

The histogram shows the ages of the guests at a party. Which class contains the median age? Show how you know.



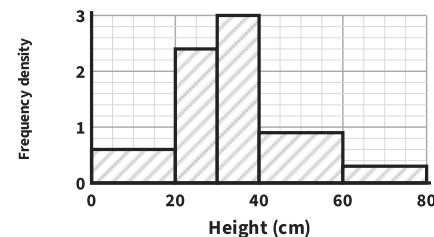
Frequencies 8, 22, 22, 18, 14: 84 guests

Running totals 8, 30, 52: the 42nd and 43rd are in 20 to 25

Answer $20 < a \leq 25$

7

The histogram shows the heights of 90 plants. Ali says more than a fifth of the plants are taller than 45 cm. Is he right? Show how you decide.



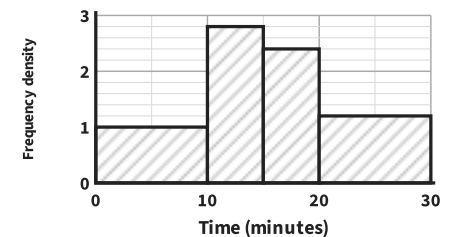
$15 \times 0.9 + 20 \times 0.3 = 13.5 + 6 = 19.5$

A fifth of 90 = 18

Answer Yes: about 19.5 > 18

8

Mo says this histogram shows the times of 50 runners. Show that Mo is wrong.



$10 \times 1 + 5 \times 2.8 + 5 \times 2.4 + 10 \times 1.2$

$= 10 + 14 + 12 + 12 = 48$

Reason the areas add to 48, not 50