

Examples

Workout



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Question 1: Draw a histogram for each set of data below.

(a)

Time, t seconds	Frequency
$0 \leq t < 2$	10
$2 \leq t < 4$	13
$4 \leq t < 6$	18
$6 \leq t < 10$	16
$10 \leq t < 14$	8
$14 \leq t < 20$	6

(b)

Length (cm)	Frequency
$0 \leq L < 20$	10
$20 \leq L < 30$	35
$30 \leq L < 40$	65
$40 \leq L < 80$	40

(c)

Mass, m kg	Frequency
$40 \leq m < 50$	4
$50 \leq m < 60$	7
$60 \leq m < 70$	13
$70 \leq m < 85$	12
$85 \leq m < 100$	3
$100 \leq m < 120$	3

(d)

Volume, v ml	Frequency
$0 \leq v < 100$	400
$100 \leq v < 175$	900
$175 \leq v < 250$	1275
$250 \leq v < 300$	350
$300 \leq v < 450$	450
$450 \leq v < 600$	150

(e)

Cost, c pounds	Frequency
$0 \leq c < 2$	5
$2 \leq c < 3$	9
$3 \leq c < 3.5$	8
$3.5 \leq c < 4$	11
$4 \leq c < 5.5$	6
$5.5 \leq c < 8$	5

(f)

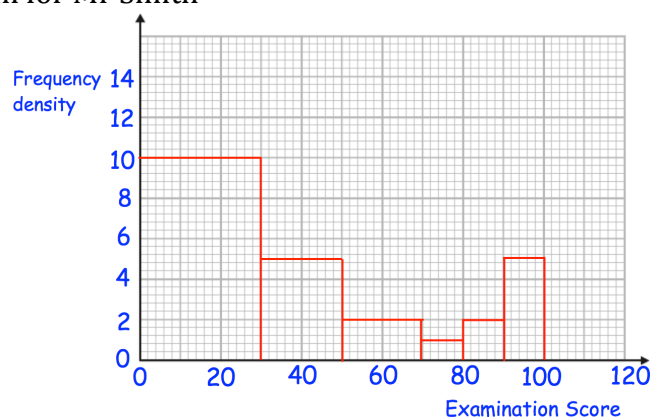
Force, f N	Frequency
$10 \leq f < 19$	3
$19 \leq f < 25$	12
$25 \leq f < 28$	9
$28 \leq f < 31$	4
$31 \leq f < 34$	2

Apply

Question 1: Mr Smith has drawn a histogram to represent his classes' examination scores.

- (a) Can you explain what Mr Smith has done wrong?
 (b) Draw a correct histogram for Mr Smith

Examination score	Frequency
$0 < s \leq 30$	3
$30 < s \leq 50$	4
$50 < s \leq 70$	10
$70 < s \leq 80$	10
$80 < s \leq 90$	5
$90 < s \leq 100$	2



Question 2: The ages of the members of a snooker club are shown in the table below.

(a) Draw a histogram to represent the data.

Ronnie, the manager of the snooker club, says that the average age of the members of the snooker club is under 32.

(b) Work out an estimate of the mean age of the members

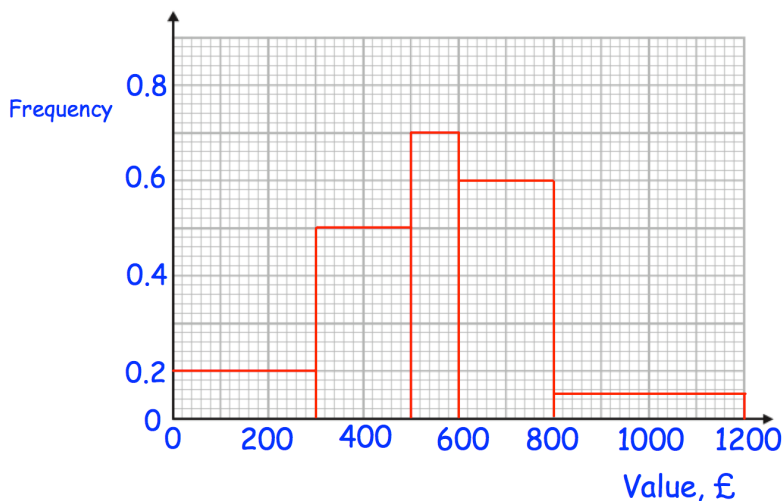
(c) Do you agree with Ronnie?
Explain your answer.

Age, x years	Frequency
$20 < x \leq 24$	6
$24 < x \leq 28$	10
$28 < x \leq 34$	12
$34 < x \leq 40$	9
$40 < x \leq 50$	7
$50 < x \leq 65$	6

Question 3: Christine has drawn a histogram to show the value of some antiques.
She has made some mistakes.

(a) Can you spot all the mistakes?

(b) Draw a correct histogram to represent the data.



Value, v pounds	Frequency
$0 \leq v < 300$	60
$300 \leq v < 500$	100
$500 \leq v < 600$	70
$600 \leq v < 800$	60
$800 \leq v < 1200$	40

Question 4: Henry has 20 apples in a crate.
The masses of the apples are shown in the table.

(a) Work out an estimate of the mean mass of an apple.

(b) Draw a histogram to represent the data.

(c) What fraction of the apples are over 85g?

Henry takes two apples from the crate at random,
without replacement.

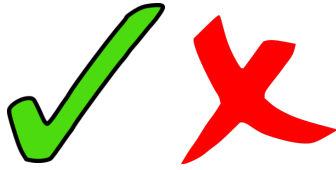
Mass, m grams	Frequency
$50 < m \leq 70$	2
$70 < m \leq 80$	3
$80 < m \leq 85$	6
$85 < m \leq 90$	5
$90 < m \leq 110$	4

(d) Work out the probability that both apples are over 90g.

Histograms: Drawing

Video 157 on www.corbettmaths.com

Answers



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