Name:

Exam Style Questions

Estimated Mean

Corbettmaths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 55

Answers and Video Solutions

1. The table below shows the length of 100 fish from a local river.

Length, L cm	Frequency	Midpoint	
$0 < L \leq 10$	21		
$10 < L \leq 20$	11		
$20 < L \leq 30$	31		
$30 < L \leq 40$	12		
$40 < L \leq 50$	25		

Calculate an estimate of the mean length of the fish.

.....cm

(4)

2. The table shows the heights of 50 students.

Height, h cm	Frequency		
$110 \leq h < 120$	3		
$120 \leq h < 130$	8		
$130 \leq h < 140$	9		
$140 \leq h < 150$	23		
$150 \leq h < 160$	7		

(a) Write down the modal class interval.

.....

(1)

(b) Work out an estimate for the mean height of the students.

.....cm

(4)

3. James recorded the times, in minutes, for 20 students to complete a test.
The information about these times is shown in the table.

Time (t mins)	Frequency		
$0 < t \leq 4$	4		
$4 < t \leq 8$	11		
$8 < t \leq 12$	4		
$12 < t \leq 16$	1		

(a) Write down the modal class interval.

.....

(1)

(b) Work out an estimate for the mean time taken.

.....minutes

(4)

4. Timothy asked 30 people how long it takes them to get to school.

The table shows some information about his results.

Time (t mins)	Frequency
$0 < t \leq 10$	2
$10 < t \leq 20$	8
$20 < t \leq 30$	12
$30 < t \leq 40$	7
$40 < t \leq 50$	1

Work out an estimate for the mean time taken.

.....minutes

(4)

5. The time for ten students to complete a race is below.

Time (t seconds)	Frequency
$20 < t \leq 40$	3
$40 < t \leq 60$	5
$60 < t \leq 80$	2

(a) Work out what fraction of students took over one minute.

.....

(1)

(b) Write down the modal interval.

.....

(1)

(c) Work out an estimate for the mean time taken.

.....seconds

(4)

6. The table shows information about the ages of footballers in a squad.

Age, y years	Frequency
$16 < y \leq 20$	6
$20 < y \leq 24$	10
$24 < y \leq 28$	11
$28 < y \leq 32$	13
$32 < y \leq 36$	4

Work out an estimate for the mean age.
Give your answer to 3 significant figures.

.....

(4)

7. The speed of vehicles passing through a village were recorded.

Speed, s mph	Frequency
$15 < s \leq 20$	16
$20 < s \leq 25$	35
$25 < s \leq 30$	68
$30 < s \leq 35$	11
$35 < s \leq 40$	2

(a) Calculate an estimate of the mean speed.

.....mph
(4)

The police gave speeding tickets to the driver of any vehicle travelling faster than 35mph.

(b) Work out the percentage of the drivers that were given speeding tickets.

……%
(2)

8. Elena and Michelle own a shop.

The table shows information about the amount of money spent by Elena's last 10 customers.

Amount, £x	Frequency
$0 < x \leq 50$	7
$50 < x \leq 100$	2
$100 < x \leq 150$	0
$150 < x \leq 200$	0
$200 < x \leq 250$	1

(a) Work out an estimate for the mean amount of money spent.

£.....

(4)

Michelle says that the mean may not be the best average to use for this information.

(b) Do you agree with Michelle?
Explain your answer.

.....

.....

(1)

9. The table below shows the distance travelled to work by 80 workers.

Distance, x miles	Frequency
$0 < x \leq 5$	13
$5 < x \leq 10$	12
$10 < x \leq 15$	29
$15 < x \leq 20$	20
$20 < x \leq 25$	6

(a) Work out an estimate of the mean distance travelled.

…….miles

(4)

(b) Explain why it is not possible to calculate the exact mean distance travelled using the information from the table.

……

……

(1)

10. Antoni is raising money for charity.

The table shows information about the donations received.

Donation, £x	Frequency
$0 < x \leq 5$	90
$5 < x \leq 10$	70
$10 < x \leq 20$	32
$20 < x \leq 50$	5
$50 < x \leq 100$	3

Antoni says that the average donation is £10

By calculating an estimate for the mean donation received, decide if you agree with Antoni.

……

……

(4)

11. The table below shows information about the ages of employees for a company.

Ages, x years	Frequency
$20 < x \leq 30$	y
$30 < x \leq 35$	40
$35 < x \leq 40$	24
$40 < x \leq 50$	28
$50 < x \leq 80$	10

Miss Rashid calculated the estimated mean from the information in the table to be 34.75 years

Find the value of y.

.....

(5)