

Name: _____

Exam Style Questions

Estimated Mean



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 55



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



length, L, cm	Frequency	Midpoint	fx
$0 < L \leq 10$	21	5	105
$10 < L \leq 20$	11	15	165
$20 < L \leq 30$	31	25	775
$30 < L \leq 40$	12	35	420
$40 < L \leq 50$	25	45	1125
	<u>+ 100</u>		<u>+ 2590</u>

Calculate an estimate of the mean length of the fish.

$$2590 \div 100$$

$$\underline{\underline{25.9}} \text{ cm}$$

(4)

2. The table shows the heights of 50 students.



Height, h, cm	Frequency	mid point	fx
$110 \leq h < 120$	3	115	345
$120 \leq h < 130$	8	125	1000
$130 \leq h < 140$	9	135	1215
$140 \leq h < 150$	23	145	3335
$150 \leq h < 160$	+ 7	155	+ 1085
	<u>50</u>		<u>6980</u>

(a) Write down the modal class interval.

$$\underline{140 \leq h < 150}$$

(1)

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

$$6980 \div 50 = 139.6$$

$$\underline{139.6} \text{ cm}$$

(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 minutes)	Frequency	midpoint	fx
$0 < t \leq 4$	4	2	8
$4 < t \leq 8$	11	6	66
$8 < t \leq 12$	4	10	40
$12 < t \leq 16$	1	14	14

- (a) Write down the modal class interval.

$$4 < t \leq 8$$

(1)

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

$$128 \div 20 = 6.4$$

$$6.4$$

.....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 minutes)	Frequency	mid point	fx
$0 < t \leq 10$	2	5	10
$10 < t \leq 20$	8	15	120
$20 < t \leq 30$	12	25	300
$30 < t \leq 40$	7	35	245
$40 < t \leq 50$	1	45	45
	<u>30</u>		<u>720</u>

Work out an estimate for the mean time taken.

$$720 \div 30 = 24$$

.....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

midpoint ft
 30 90
 50 250
 70 + 140
 480

10

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

$$\frac{2}{10} = \frac{1}{5}$$

.....
(1)

(b) Write down the modal interval.

$$40 < t \leq 60$$

.....
(1)

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

$$480 \div 10 = 48$$

$$48$$

.....seconds
(4)