

Find the mean from a grouped frequency table



1 What number is at the midpoint of each number line?

a)

b)

c)

d)

e)

f)

2 Write the midpoints of the class intervals.

a) $0 \leq x < 10$ c) $10 \leq x < 20$ e) $20 \leq x < 40$

b) $1 \leq x < 10$ d) $11 \leq x < 20$ f) $21 \leq x < 40$

3 The table shows Mr Glover's monthly phone bills over two years. Complete the table.

Phone bill, x (£)	Frequency	Midpoint	frequency \times midpoint
$0 \leq x < 10$	7	5	$7 \times 5 = 35$
$10 \leq x < 20$	9	15	$9 \times 15 =$
$20 \leq x < 30$	5		
$30 \leq x < 40$	3		

Complete the calculation to find an estimate of the mean of his phone bills.

$$\text{estimate of mean} \approx \frac{\text{total cost}}{\text{total frequency}} = \frac{\boxed{}}{\boxed{}} = \boxed{}$$

4 The table shows information about the amount of time a group of students spent online one evening.

Complete the table.

Time online, h (hours)	Frequency	Midpoint	frequency \times midpoint
$0 \leq h < 1$	2	0.5	
$1 \leq h < 2$	12		
$2 \leq h < 3$	7		
$3 \leq h < 4$	5		
$4 \leq h < 6$	4		

Complete the calculation to find an estimate of the mean time spent online.

$$\text{estimate of mean} \approx \frac{\text{total time}}{\text{total frequency}} = \frac{\boxed{}}{\boxed{}} = \boxed{}$$

5 The table shows some information about the masses of 30 pets.

Mass, m (kg)	Frequency		
$0 \leq m < 2$	8		
$2 \leq m < 5$	4		
$5 \leq m < 10$	12		
$10 \leq m < 15$	5		
$15 \leq m < 25$	1		

a) Work out an estimate for the mean mass of the pets.

b) Write the modal class of the masses.

6 The table shows some information about the waiting times at a post office one lunchtime.

Waiting time, t (minutes)	$0 \leq t < 3$	$3 \leq t < 4$	$4 \leq t < 5$	$5 \leq t < 10$
Frequency	20	15	8	2

Work out an estimate for the mean waiting time.

7 The table shows the amount of time people took to get out of an escape room.

Time, t (minutes)	Frequency	Midpoint	
$0 < t \leq 15$	3		
		22.5	225
			595
	12	45	
$50 < t \leq 60$			1,100

a) Fill in any missing information in the table.

b) Write the modal class of the time taken.

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

d)



I think the intervals should be $0 \leq t < 15$ not $0 < t \leq 15$, so the answer will be wrong.

Do you agree with Mo? _____

Explain your answer.
