

The City School
North Nazimabad Boys Campus
Mathematics
2nd Monthly Test Session 2019 - 20
Class - 11



Name _____ Section _____ Date _____ Max Marks [30]

- 1 (a) Kamal earned a total of \$32 500 in 2017.
He paid 9% of this amount into his pension.
He paid 22% tax on the remainder of his earnings.

Calculate the amount left after paying his pension and his tax.

Answer \$ [3]

- (b) Kamal invested \$1200 in a savings account paying 1.8% per year compound interest.
He left the money in the account for 5 years.
Calculate the amount of money in the account at the end of 5 years.
Give your answer correct to the nearest cent.

Answer \$ [3]

- (c) Kamal also invested some money in a different savings account for 5 years.
This account paid 2.1% per year **simple** interest.
At the end of 5 years there was \$828.75 in the account.

Calculate the amount of money he invested in this account.

Answer \$ [3]

Q2 The diagram at the bottom of the page shows the lines AB and BC .

(a) By measuring an angle, find reflex angle ABC .

Answer [1]

(b) The point D is on the opposite side of AC to B .
 $CD = CB$ and $AD = 10$ cm.

On the diagram, construct quadrilateral $ABCD$. [1]

(c) On the diagram, construct the locus of points, **inside** the quadrilateral $ABCD$, that are

(i) equidistant from A and B , [1]

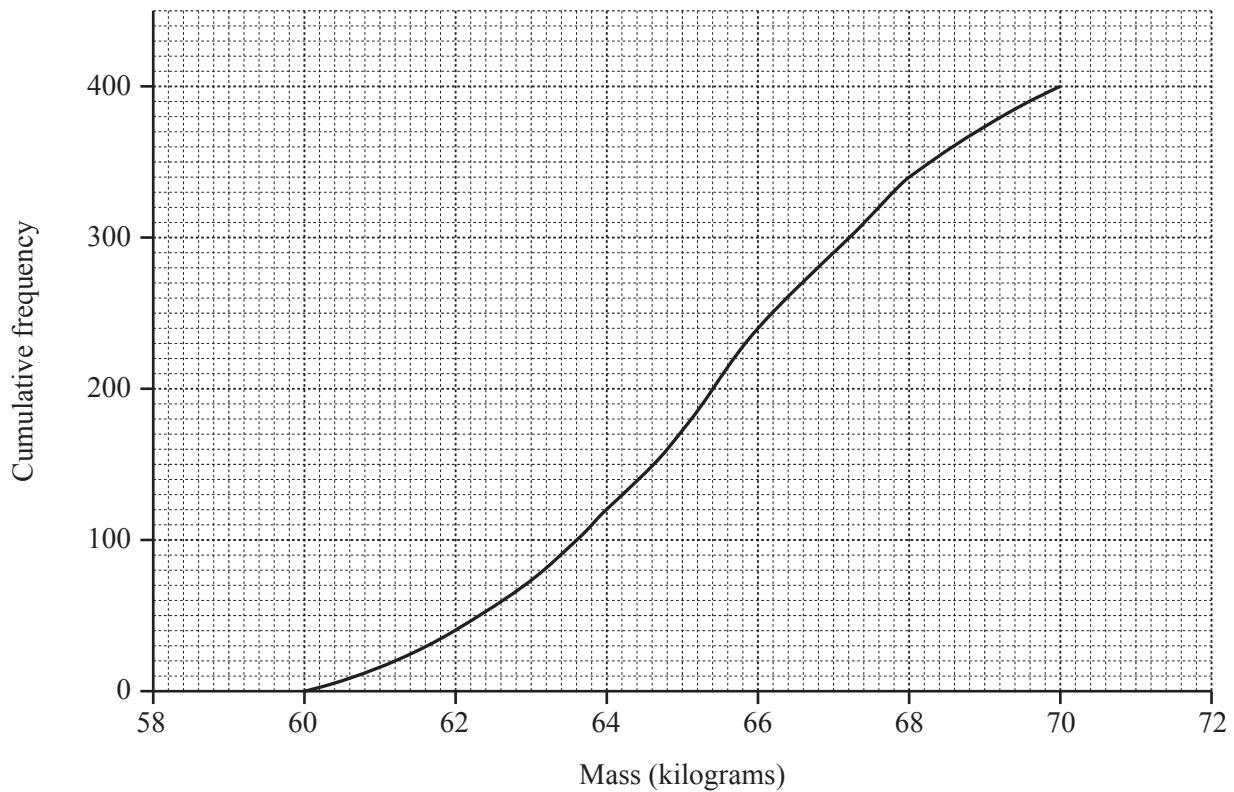
(ii) equidistant from BC and BA . [1]

(d) On the diagram, shade the region **inside** the quadrilateral $ABCD$ containing the points that are

nearer to A than to B and
nearer to BC than to BA . [1]



Q3 The masses of 400 goats were measured.
The results are shown in the cumulative frequency graph.



(a) Use the graph to find

(i) the median,

Answer kg [1]

(ii) the 30th percentile,

Answer kg [1]

(iii) the number of goats whose mass is more than 66 kg.

Answer [1]

(b) It was noticed later that the scales used were faulty and that the true readings should all be 2 kg more.

On the grid above, draw the true cumulative frequency graph.

[1]

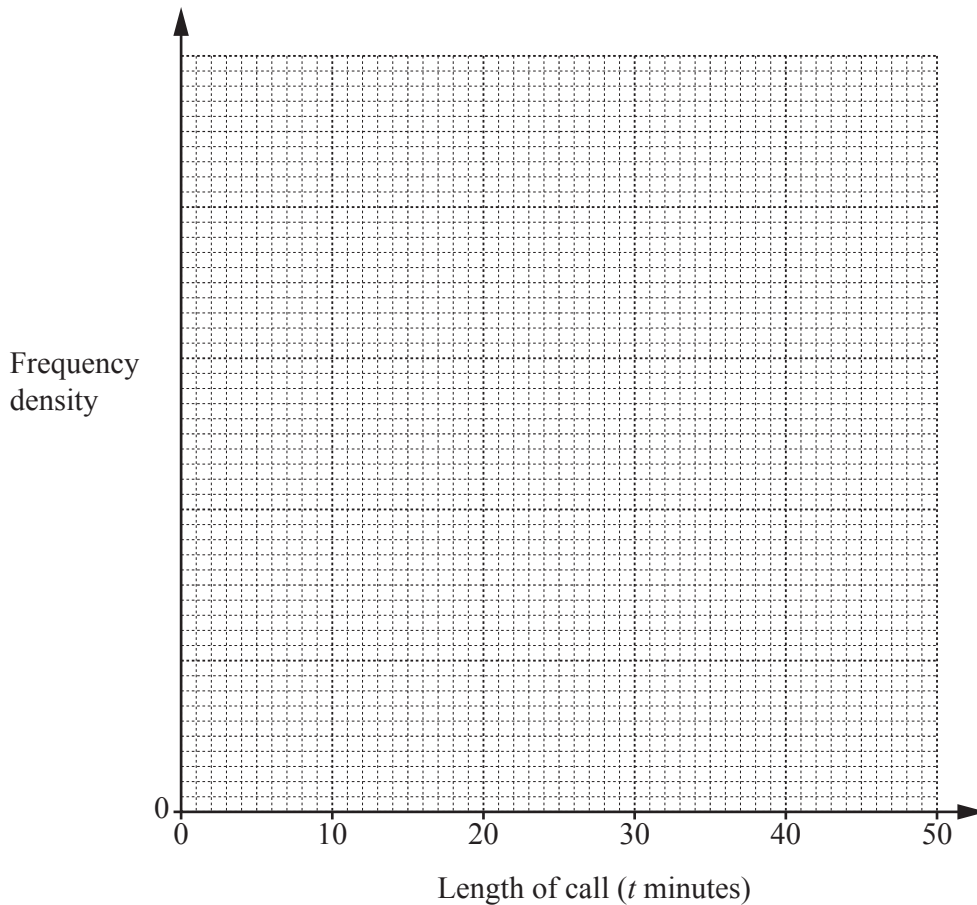
Q4 Sunil recorded the lengths, in minutes, of the 150 phone calls he made one month. His results are summarised in the table.

Length of call (t minutes)	$0 < t \leq 5$	$5 < t \leq 10$	$10 < t \leq 20$	$20 < t \leq 30$	$30 < t \leq 50$
Frequency	35	42	30	28	15

(a) Calculate an estimate of the mean length of a call.

Answer minutes [3]

(b) On the grid below, draw a histogram to represent this data.

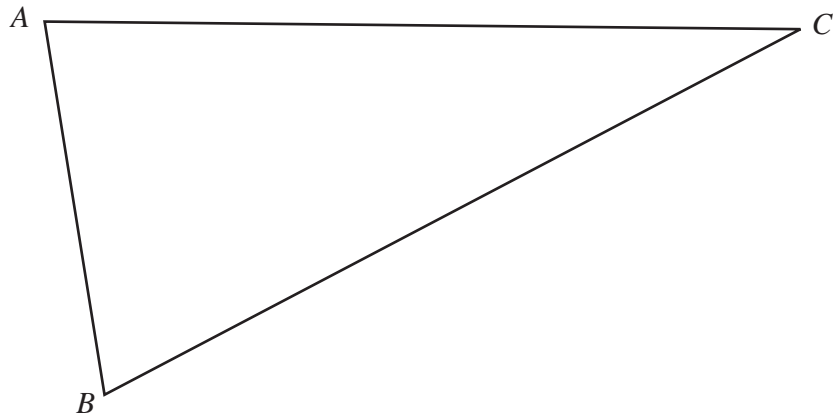


[3]

(c) Find an estimate for the percentage of Sunil's calls that were longer than 25 minutes.

Answer % [2]

Q5 (a)



(b)

The point D is on the opposite side of AC to B .
 $AD = 6\text{ cm}$ and $CD = 8\text{ cm}$.

Construct triangle ADC . [1]

On the diagram, construct the locus of points **inside** the quadrilateral $ABCD$ that are

(i) 2.5 cm from AC , [1]

(ii) equidistant from AB and BC . [1]

(c) The points P and Q are 2.5 cm from AC and equidistant from AB and BC .

Mark and label P and Q .

Measure PQ .

Answer $PQ = \dots\dots\dots\text{ cm}$ [1]