



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Stem & Leaf Diagrams

Answers

*"We will help you to
achieve A Star "*



Answer 1

Here are the heights, in cm, of 18 children.

98	90	84	102	115	91
88	91	108	110	97	93
90	89	103	95	92	106

Show this information in an ordered stem and leaf diagram.

UNORDERED

80		4 8 9
90		8 0 x x 7 3 0 8 x
100		2 8 3 6
110		5 0

ORDERED

80		4 8 9
90		0 0 1 1 2 3 5 7 8
100		2 3 6 8
110		0 5

KEY: $90|8 = 98$



Answer 2

(b) Work out the percentage of these men with a height greater than 184 cm.

$$3 \text{ MEN} \text{ so } \frac{3}{20} \times 100 = \underline{\underline{15\%}}$$

Answer 3

One of these students is going to be chosen at random.

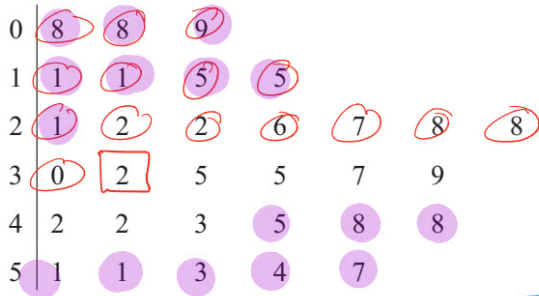
(b) Find the probability that this student has a test mark less than 28

$$P(< 28) = \underline{\underline{\frac{9}{20}}}$$



Answer 4

The stem and leaf diagram gives information about the numbers of tomatoes on 31 tomato plants.



Key: 5 | 7 = 57 tomatoes

(a) Work out the median.

MEDIAN IS $\left(\frac{n+1}{2}\right)^{\text{TH}}$ VALUE

"MIDDLE VALUE"
WE WANT $\left(\frac{31+1}{2}\right)^{\text{TH}}$ VALUE
IE 16TH VALUE

32



Answer 5

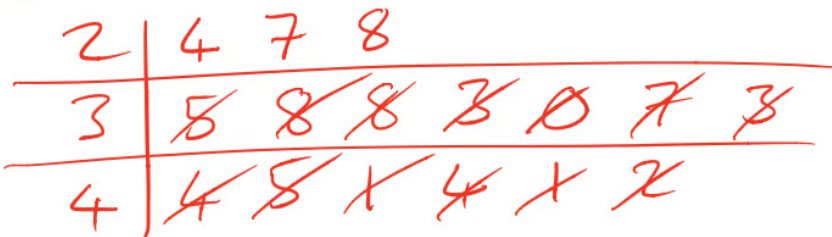
Sixteen babies are born in a hospital.

Here are the weights of the babies in kilograms.

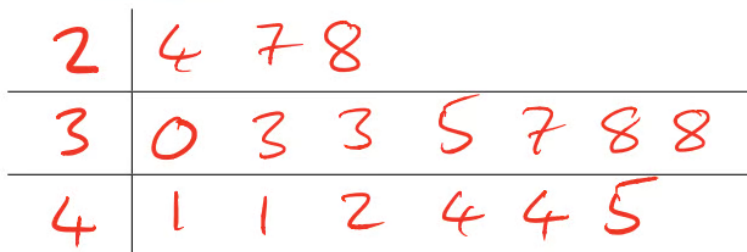
~~2.4~~ ~~2.7~~ ~~3.5~~ ~~4.4~~ ~~4.5~~ ~~4.1~~ ~~4.4~~ ~~2.8~~
~~4.1~~ ~~3.8~~ ~~3.8~~ ~~4.2~~ ~~3.3~~ ~~3.0~~ ~~3.7~~ ~~3.3~~

Show this information in an ordered stem and leaf diagram.

UNORDERED



ORDERED



Key:
 $2|4 = 2.4$



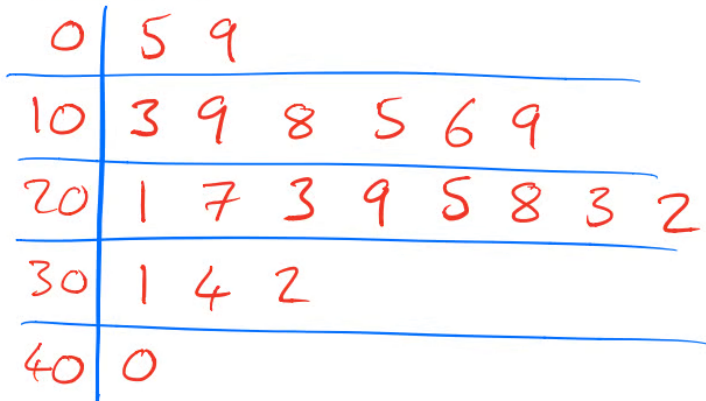
Answer 6

Here are the times, in minutes, that 20 children took to walk to school.

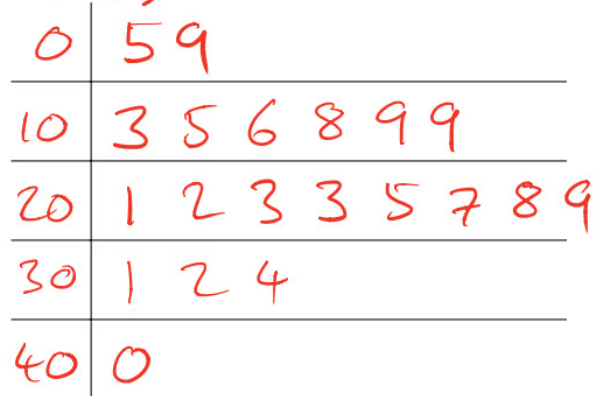
~~13~~ ~~21~~ ~~19~~ ~~27~~ ~~31~~ ~~5~~ ~~23~~ ~~29~~ ~~18~~ ~~25~~
~~34~~ ~~15~~ ~~28~~ ~~23~~ ~~22~~ ~~40~~ ~~16~~ ~~19~~ ~~32~~ ~~9~~

Draw an ordered stem and leaf diagram for these times.

UN-ORDERED



ORDERED



Key:

$$10|3 = 13$$



Answer 7

Here are the heights in centimetres of 20 men.

~~165~~ ~~164~~ ~~176~~ ~~179~~ ~~188~~ ~~178~~ ~~183~~ ~~172~~ ~~180~~ ~~190~~
~~167~~ ~~159~~ ~~156~~ ~~176~~ ~~173~~ ~~168~~ ~~169~~ ~~182~~ ~~167~~ ~~192~~

(a) Show this information in an ordered stem and leaf diagram.

UNORDERED

150		9	6				
160		5	4	7	8	9	7
170		6	9	8	2	6	3
180		8	3	0	2		
190		0	2				

ORDERED

150		6	9				
160		4	5	7	7	8	9
170		2	3	6	6	8	9
180		0	2	3	8		
190		0	2				

KEY:
 $160|5 = 165\text{cm}$



Answer 8

Chloe recorded the test marks of 20 students.

~~22~~ ~~29~~ ~~38~~ ~~16~~ ~~36~~ ~~18~~ ~~30~~ ~~21~~ ~~27~~ ~~43~~
~~14~~ ~~41~~ ~~25~~ ~~38~~ ~~46~~ ~~19~~ ~~48~~ ~~34~~ ~~23~~ ~~46~~

(a) Show this information in an ordered stem and leaf diagram.

UNORDERED

10	6 8 4 9
20	2 9 1 7 5 3
30	8 6 0 8 4
40	3 1 6 8 6

ORDERED

10	4 6 8 9
20	1 2 3 5 7 9
30	0 4 6 8 8
40	1 3 6 6 8

KEY:
 $20|2 = 22$



Answer 9

Here are the heights, in mm, of 20 plants.

~~53~~ ~~44~~ ~~48~~ ~~56~~ ~~48~~ ~~64~~ ~~51~~ ~~33~~ ~~41~~ ~~44~~
~~31~~ ~~52~~ ~~55~~ ~~63~~ ~~60~~ ~~50~~ ~~47~~ ~~61~~ ~~37~~ ~~56~~

Draw an ordered stem and leaf diagram for these heights.

UNORDERED

30	3 1 7
40	4 8 8 1 4 7
50	3 6 1 2 5 6 6
60	4 3 0 1

ORDERED

30	1 3 7
40	1 4 4 7 8 8
50	1 2 3 5 6 6 6
60	0 1 3 4

Key: $50|3 = 53$



Answer 10

(b) Work out the interquartile range.

LQ is 8TH VALUE

$$LQ = 21$$

UQ is 24TH VALUE

$$UQ = 45$$

$$\begin{aligned} IQR &= 45 - 21 \\ &= \underline{\underline{24}} \end{aligned}$$

$$\begin{aligned} LQ \text{ is } \left(\frac{n+1}{4}\right)^{\text{TH}} \text{ VALUE} \\ UQ \text{ is } \left(\frac{3(n+1)}{4}\right)^{\text{TH}} \text{ VALUE} \\ IQR = UQ - LQ \end{aligned}$$



Answer 11

You must write down all stages in your working.

Here are the ages, in years, of 15 students.

~~19~~ ~~18~~ ~~20~~ ~~25~~ ~~37~~
~~33~~ ~~21~~ ~~17~~ ~~29~~ ~~20~~
~~42~~ ~~18~~ ~~25~~ ~~37~~ ~~22~~

Show this information in an **ordered stem and leaf diagram**.

UNORDERED

10	9 8 7 8
20	0 5 1 9 0 3 7
30	7 3 7
40	2

ORDERED

10	7 8 8 9
20	0 0 1 2 3 5 9
30	3 7 7
40	2

Key: $10|9 = 19$