## Mean from a Table

## ROK - Retention of Knowledge

Find the mean, median, mode and range of the following numbers.

1. $£ 15, £ 11, £ 9, £ 13$
2. $12,8,9,8,13$
3. $4.8,3.6,4.5,3.6,4.5$

I have 5 numbers, the mean is 6 and the mode is 7 what could these numbers be?

Hurricane Catrina happened in 2005 and mixed up all the words. Can you unscramble the words.

Half way point of the group

| Marks on test | Frequency |  |  |  | Mid Point |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $f x$ | $f x$ |  |  |  |
| $0<\mathrm{h} \leq 10$ | 3 | $x$ | 5 | $=$ | 15 |
| $10<\mathrm{h} \leq 20$ | 8 | 15 | 120 |  |  |
| $20<\mathrm{h} \leq 30$ | 9 | 25 | 225 |  |  |
| $30<\mathrm{h} \leq 40$ | 12 | 35 | 420 |  |  |
|  | 32 |  | 780 |  |  |

Mean $=\frac{\sum f x}{\sum f}=\frac{\text { Total } f x}{\text { Total Frequency }}=\frac{780}{32}=24.375$ marks
So on average a person scores 24 marks on the test.

Skill 1 Find the mean, median and mode from each frequency table

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Skill 2
Find the mean, median and modal class from each grouped frequency table

| Height (cm) | Frequency |
| :---: | :---: |
| $130<\mathrm{h} \leq 140$ | 3 |
| $140<\mathrm{h} \leq 150$ | 8 |
| $150<\mathrm{h} \leq 160$ | 9 |
| $160<\mathrm{h} \leq 170$ | 12 |
| $170<\mathrm{h} \leq 180$ | 10 |
| $180<\mathrm{h} \leq 190$ | 6 |
| $190<\mathrm{h} \leq 200$ | 2 |


| French Test Score | Frequency |
| :---: | :---: |
| $0 \leq x<10$ | 1 |
| $10 \leq x<15$ | 3 |
| $15 \leq x<20$ | 5 |
| $20 \leq x<25$ | 8 |
| $25 \leq x<35$ | 9 |
| $35 \leq x<50$ | 4 |


| Consultation <br> (mins) | Frequency |
| :---: | :---: |
| $0 \leq \mathrm{x}<5$ | 15 |
| $5 \leq \mathrm{x}<10$ | 22 |
| $10 \leq \mathrm{x}<15$ | 11 |
| $15 \leq \mathrm{x}<20$ | 7 |


| Clothes Shop <br> (pounds) | Frequency |
| :---: | :---: |
| $5 \leq x<25$ | 12 |
| $25 \leq x<40$ | 39 |
| $40 \leq x<70$ | 51 |
| $70 \leq x<100$ | 27 |
| $100 \leq x<150$ | 12 |
| $150 \leq x<200$ | 9 |

## Stretch

Fifty people were asked what their height were in cm . The following table is the results.

| 137 | 93 | 140 | 108 | 98 |
| :---: | :---: | :---: | :---: | :---: |
| 215 | 112 | 154 | 106 | 134 |
| 148 | 207 | 187 | 104 | 149 |
| 196 | 194 | 176 | 121 | 158 |
| 154 | 175 | 130 | 111 | 169 |
| 83 | 167 | 103 | 192 | 142 |
| 127 | 174 | 178 | 183 | 153 |
| 184 | 164 | 115 | 164 | 179 |
| 157 | 173 | 178 | 178 | 183 |
| 89 | 177 | 184 | 174 | 174 |

1) Construct a grouped frequency table of this data, setting your own class boundaries.
2) Calculate the mean.
3) Why you might have a different value for the mean than someone else in the class?
4) How you could make your value for the mean more accurate?
