



KS4 STATISTICS STATEMENTS

TRUE? FALSE? OR SOMETIMES TRUE?

AIMS

- to help learners review, discuss and clarify a broad range of statistical ideas relevant to KS4
- to give learners time for reflection

ACTIVITY

In pairs:

- Take a card.
- Ensure that you understand exactly what it is saying
- Discuss and decide if the statement on the card is either
 - FALSE
 - TRUE
or is
 - SOMETIMES TRUE under certain conditions or circumstances.

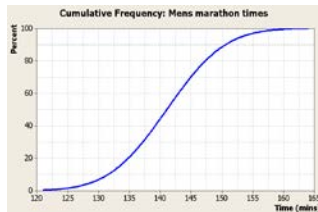
Stick the card onto a poster along with your written explanation of why you believe it to be true or false or if it is sometimes true then what conditions etc are needed for it to be true.

Conclusion

Each pair will be asked to choose one particular card – say which category they have placed it in and why they believe it goes there.

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A The graph suggests that the median men's marathon finishing time is approximately 141 mins and the IQR is 10 mins.



B

Marathon Time (mins)	f	x	fx
$125 \leq t < 135$	17	130	2210
$135 \leq t < 140$	16	137.5	2200
$140 \leq t < 145$	20	142.5	2850
$145 \leq t < 155$	20	150	3000
$155 \leq t < 165$	3	160	480

The data from the table shows that the mean marathon time is 141.3mins exactly.

C

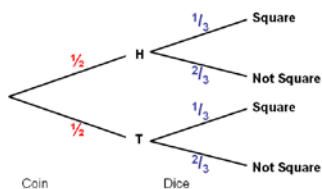
A box plot gives you a clue about the shape of the distribution

D

In a histogram the widths of the bars are different

E

The probability that I get a head when I throw my coin and a square number on my dice is $\frac{2}{5}$.



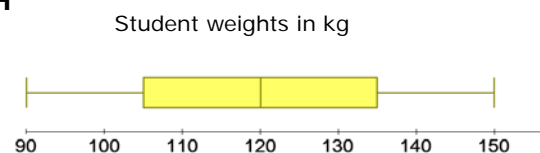
F

If the probability of event A is x and the probability of event B is y then the probability of event A or event B happening is x + y

G

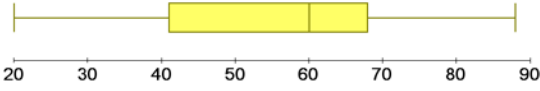
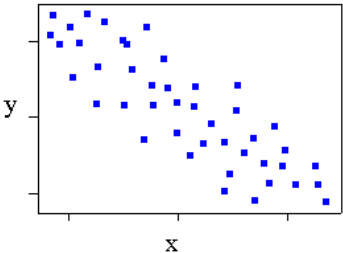

The amount of money I have is a continuous variable because there is no limit – it can keep going up as I earn more.

H



The mean and median weight of these students are both about 120kg

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<p>I</p> <p>Weight of apples in grams</p>  <p>The mean weight of the apples is about 60g</p>	<p>J</p> <p>“How heavy a sleeper are you? HEAVY_____LIGHT Very Fairly Average Fairly Very”</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>This is a good survey question to find out about sleep patterns.</p>
<p>K</p> <p>The probability that the sun will shine tomorrow is 0.15. This means that the probability that it will rain tomorrow is 0.85.</p>	<p>L</p> <p>I throw a coin and get 36 heads and 24 tails. I calculate the probability of getting a head as $\frac{3}{5}$.</p>
<p>M</p> <p>A large sample always gives unbiased estimates regardless of how the sample is chosen</p>	<p>N</p> <p>In a class test, the mean mark for the girls was 63% and the mean mark for the boys was 78%. If there are 13 girls and 7 boys, the mean mark for the class is 71%.</p>
<p>O</p>  <p>The variables x and y are inversely proportional to each other</p>	<p>P</p>  <p>Getting a total of 7 when throwing a pair of dice is more likely than any other total</p>