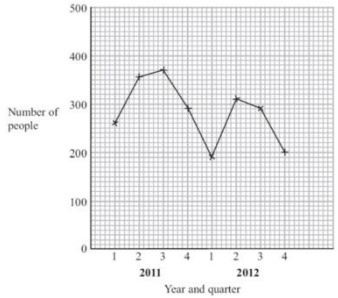
GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 1.1

True or False? The following data can be plotted on a time series graph The amount of money raised by each stall at the school fayre in 2023	For the data below, state the appropriate moving average that should be used: **Day** | Mon | Wed | Fri | Mon | Wed | Fri **£** | 225 | 296 | 302 | 274 | 282 | 315 We should use a _____ - point moving average	For a trend line drawn on a graph representing the amount of detentions achieved by year 10 each term, what does a gradient of -11.36 represent?
A time series is plotted and a value of $256 is plotted for June The value on the trend line at June is read at $194 Calculate the seasonal effect at 6pm	Calculate the missing moving average for this data **Month** | Jul | Dec | Jul | Dec | Jul | Dec | Jul | Dec **Visits** | 2 | 6 | 2 | 7 | 3 | 7 | 5 | 8 **MA** | | 4 | 4 | | 5 | 5 | 6 | 5.5 |	State the formula for fining seasonal effect
State the trend show by the time series graph  	State the gradient of the trend line with equation: $2y = 14.3 + 7.8x$	Interpret the mean seasonal effect for 5am which was calculated as -213 visitors

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

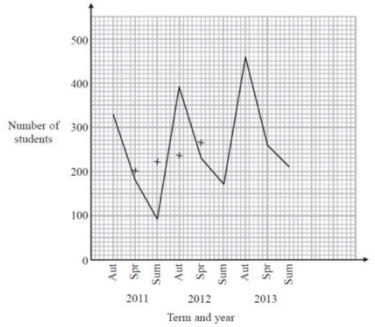
Week 1.2

For the data below, state the appropriate moving average that should be used:

Term	Aut	Spr	Sum	Aut	Spr	Sum
Merits	263	511	314	284	465	320

We should use a _____ - point moving average

For the time series graoh to the right, complete the 2 sentances



The peak for each year is in _____

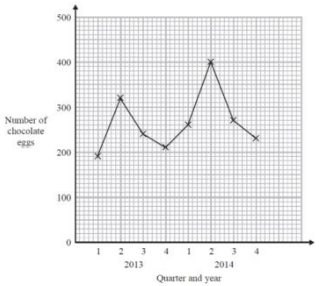
The trough for each year is in _____

Calculate the missing moving average for this data

Q	3	4	1	2	3	4	1	2
$	15	12	16	20	14	12	15	17
MA			15.75	15.5	15.5		14.5	

For a trend line drawn on a graph representing the profit made per year at the Christmas Event, what does a gradient of £318 represent?

State the trend show by the time series graph



State the gradient of the trend line with equation:

$$12x - 3.9 = \frac{1}{3}y$$

Arjun drew a time series with a trend line. From the trend line the value at 5pm on a Friday reads as 12 incomplete tasks

Arjun had plotted a value on the time series for 5pm Friday as 3 incomplete tasks

Calculate the seasonal effect for 5pm on a Friday

Interpret the mean seasonal effect for September which was calculated to be -192 detentions

Score ___ / 9

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Week 2.1

True or False?

This is an appropriate and complete hypothesis:

Men drink more units of alcohol per week than women

True or False?

This is an appropriate and complete hypothesis:

Candidates over 30 take an average of 23mins per interview

True or False?

This is an appropriate and complete hypothesis:

I think Keith will raise his voice 13 times during the lesson

True or False?

This is an appropriate and complete hypothesis:

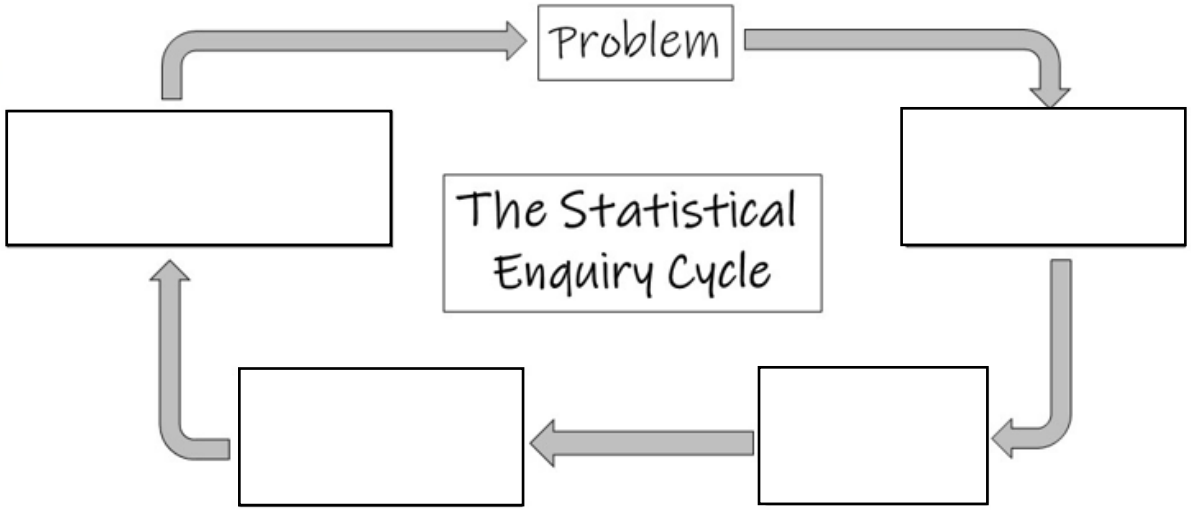
How many times per night does people over 60 wake up?

True or False?

This is an appropriate and complete hypothesis:

Jenny will watch TV for 3 hours

Complete the missing steps for the Statistical Enquiry Cycle



Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 2.2

True or False?

This is an appropriate and complete hypothesis:

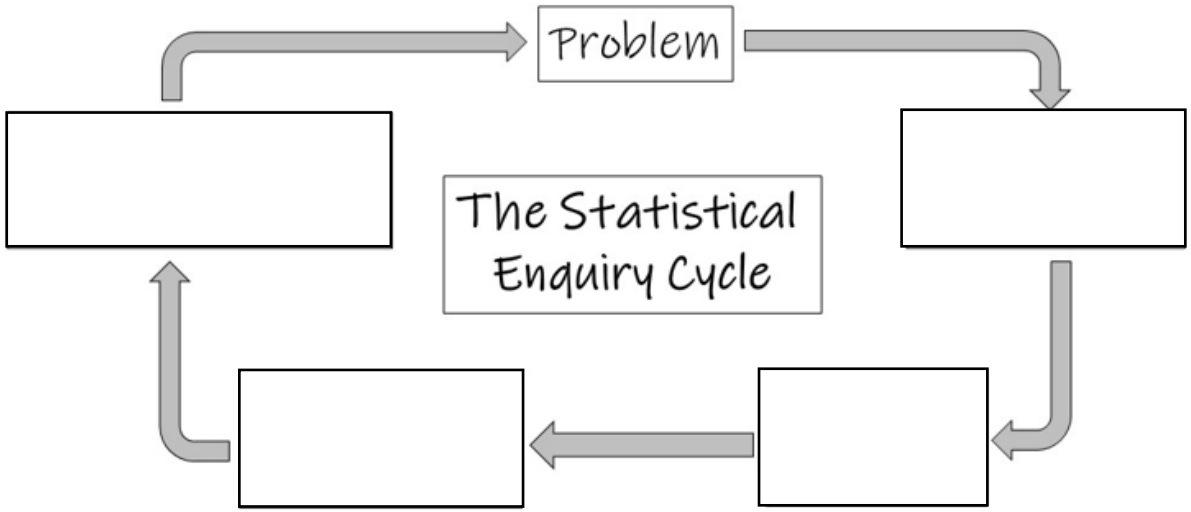
Under 7s score more goals

True or False?

This is an appropriate and complete hypothesis:

What is the average number of cars a person has in their lifetime?

Complete the missing steps for the Statistical Enquiry Cycle



Define Primary Data

Define Qualitative Data

Define Catagorical Data

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 3.1

True or False? This is an appropriate and complete hypothesis: Molly is faster than Sara in the 100m race	True or False? This is an appropriate and complete hypothesis: Anaiya will complete the puzzle in under 10mins	True or False? This is an appropriate and complete hypothesis: 10R will do better in the test
Define Secondary Data	Define Discrete Data	Define Bivariate Data
Which are better for UNDERSTANDING? [ ] interviews [ ] questionnaires	Which are better for INCLUSIVITY? [ ] interviews [ ] questionnaires	Which are better for CANDOUR? [ ] interviews [ ] questionnaires

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 3.2

Define Quantitative Data	Define Continuous Data	Define Ranked Data
Which are better for RESOURCES? [ ] interviews [ ] questionnaires	Which are better for INTERVIEWER BIAS? [ ] interviews [ ] questionnaires	Which are better for UNDERSTANDING? [ ] interviews [ ] questionnaires
Which type of sampling method is this? Take a list of all the teachers in the school and pick 35 of them at random	Which type of sampling method is this? Split the swimmers into 4 different age categories and choose a proportionate amount for each group	Which type of sampling method is this? Use a random name generator to select 40 employees from the company

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 4.1

Which are better for INCLUSIVITY? [ ] interviews [ ] questionnaires	Which are better for CANDOUR? [ ] interviews [ ] questionnaires	Which are better for RESOURCES? [ ] interviews [ ] questionnaires
Which type of sampling method is this? Choose 20 pets from each of the 4 types of animal (cat, dog, rabbit, reptile)	Which type of sampling method is this? Randomly choose one exercise class from the timetable and speak to everyone in that class	Which type of sampling method is this? Ask 5 year 1, 5 year 2, 5 year 3, 5 year 4, 5 year 5 and 5 year 6 pupils
Put these random sample instructions in order [ ] Use a RNG to select 12 random numbers [ ] Ignore repeats and number > 12 [ ] Number all of the cars from 1-39 [ ] Choose the corresponding cars	Put these stratified sampling instructions in order [ ] Calculate the proportion of each level (x) [ ] Choose the corresponding candidates [ ] Number all of the candidates in level 1 from 1-11 [ ] Repeat for all other levels [ ] Ignore repeats and numbers > 11 [ ] Use a RNG to select x random numbers	Put these systematic sampling instructions in order [ ] Number the boxes from 1 – n as they appear [ ] Calculate the regular interval (x) [ ] Choose every x^{th} box thereafter [ ] Use a RNG to select a number from 1 – x [ ] Choose the corresponding box as the starting Point

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 4.2

Which type of sampling method is this? Take a list of all the people in the choir and choose every 5th person as they arrive for rehearsal	Which type of sampling method is this? Split the congregation into age categories and ask a small random sample of one of the age groups	Which type of sampling method is this? Assign every patient a number then use a computer programme to select 5 numbers at random
Put these random sample instructions in order [ ] Number all of the rabbits from 1 - 213 [ ] Choose the corresponding rabbits [ ] Use a RNG to select 20 random numbers [ ] Ignore repeats and number > 213	Put these stratified sampling instructions in order [ ] Number all of the cars that are red from 1 - 30 [ ] Repeat for all other colours [ ] Ignore repeats and numbers > 30 [ ] Calculate the proportion of each level (x) [ ] Choose the corresponding cars [ ] Use a RNG to select x random numbers	Put these systematic sampling instructions in order [ ] Use a RNG to select a number from 1 – x [ ] Choose the corresponding bottle as the starting point [ ] Number the bottles from 1 – n as they appear [ ] Calculate the regular interval (x) [ ] Choose every xth box thereafter
What statistical diagram is most appropriate for comparing the heights of 2 different groups of basketball players?	What statistical diagram is most appropriate for showing the eye colours of all of the pupils in reception?	What sytatistical diagram is most appropriate for showing how the sales have changes over the last 3 years?

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 5.1

Put these random sample instructions in order [ ] Choose the corresponding shoes [ ] Use a RNG to select 100 random numbers [ ] Number all of the shoes form 1 - 500 [ ] Ignore repeats and number > 500	Put these stratified sampling instructions in order [ ] Number all of the glasses from 1-36 [ ] Repeat for all other lost property categories [ ] Use a RNG to select x random numbers [ ] Ignore repeats and numbers > 36 [ ] Calculate the proportion of each level (x) [ ] Choose the corresponding glasses	Put these systematic sampling instructions in order [ ] Use a RNG to select a number from 1 – x [ ] Calculate the regular interval (x) [ ] Choose every x^{th} packet thereafter [ ] Choose the corresponding packet as the starting point [ ] Number the packets from 1 – n as they appear
What statistical diagram is most appropriate for showing the link between the temperature and the % of the wall that is shaded at 12pm?	What statistical diagram is most appropriate for comparing the proportions of sales in a grocery store in three different food categories?	What sytatistical diagram is most appropriate for looking for a normal (symmetrical) distribution in a data set?
What statistical calculation(s) is most appropriate when plotting a box plot?	What statistical calculation(s) is most appropriate when drawing a scatter graph?	What statistical calculation(s) is most appropriate when wanting to calculate skew?

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 5.2

What statistical diagram is most appropriate for showing the average number of detentions per week by three different year groups?	What statistical diagram is most appropriate for looking for a relationship between the length and weights of new-born babies?	What sytatistical diagram is most appropriate for comapring the cost of new and old cars of the same model?
What statistical calculation(s) is most appropriate when constructing a pie chat?	What statistical calculation(s) is most appropriate when plotting a time series graph?	What statistical calculation(s) is most appropriate when analysing the spread of a data set?
Hypothesis: Men can jump higher from standing than women What would we expect to see in the box plots that are plotted if this hypothesis is correct?	**Hypothesis:** Sales have increased steadily since the covid pandemic What would we expect to see on the time series graph that is plotted if this hypothesis is correct?	**Hypothesis:** Emmie spends an average of £24 a week more than Lucile on the weekly shop What would you expect to see in the statistcial calculations if this hypothesis is correct?

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

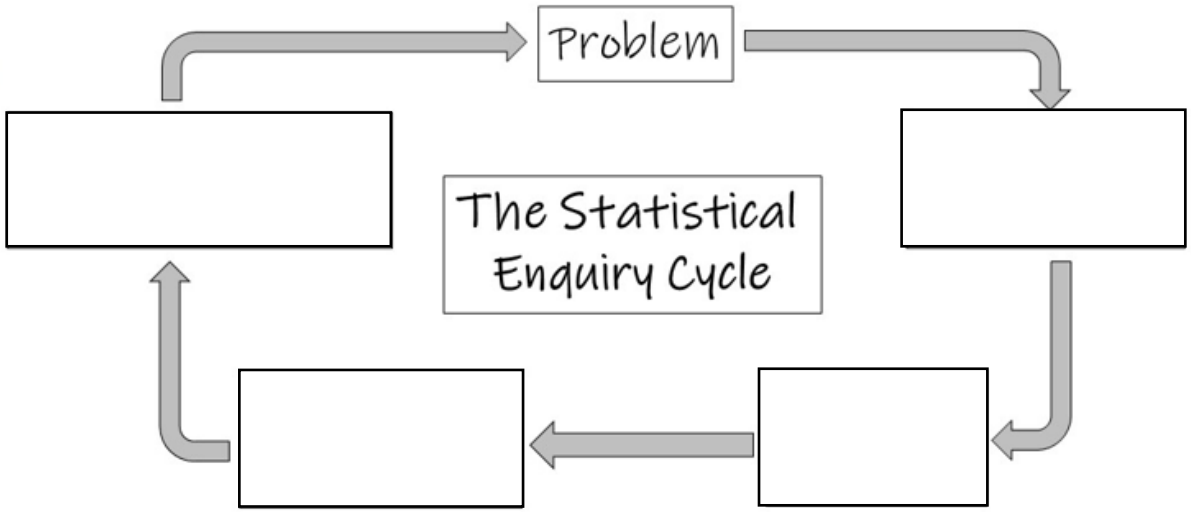
Week 6.1

True or False?

This is an appropriate and complete hypothesis:

The time it takes for the male rats to complete the maze is less than half the time it takes the female rats

Complete the missing steps for the Statistical Enquiry Cycle



True or False?

This is an appropriate and complete hypothesis:

How many hours a week do the girls play with toys compared to the boys?

Define Primary Data

Which type of sampling method is this?

Take a representative proportion of both male and female students from each year group

Define Discrete Data

Score ___ / 9

GCSE STATISTICS: TERM 10.6 MIXED TOPIC TASKS

Week 6.2

True or False? This is an appropriate and complete hypothesis: The more hats you own, the curlier your hair	Which are better for CANDOUR? [ ] interviews [ ] questionnaires	What sytatistical diagram is most appropriate for identifying the distribution of the hand span of the professional piano players?
Define Secondary Data	Which type of sampling method is this? Choose every 300th box of cereal as it comes off the conveyor belt	What statistical calculation(s) is most appropriate when constructing a histogram?
Hypothesis: The more people there are on the wiaitng list, the more complaints customer services recieve What would you expect to see on the sctater graphs if this hypothesis was correct?	Put these systematic sampling instructions in order [ ] Calculate the regular interval (x) [ ] Choose every xth tub thereafter [ ] Use a RNG to select a number from 1 – x [ ] Number the tubs from 1 – n as they appear [ ] Choose the corresponding tub as the starting point	Define Continuous Data

Score ___ / 9