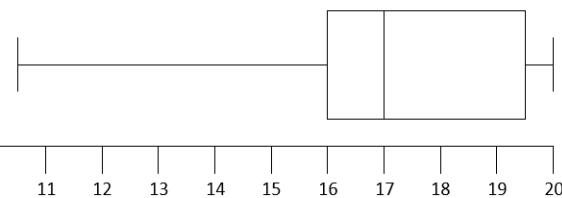
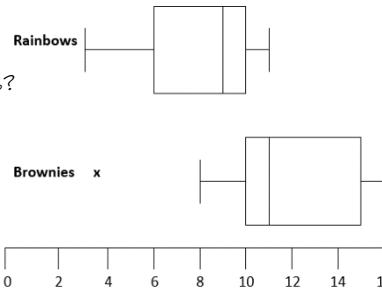
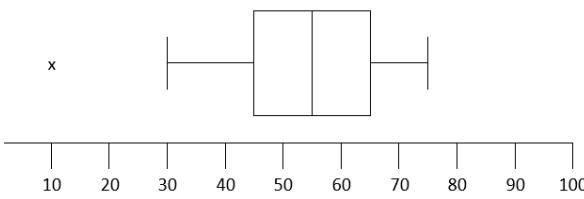
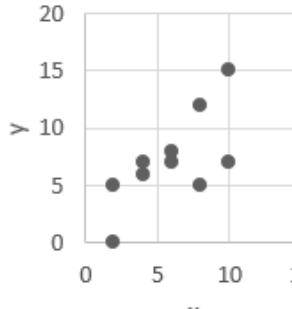


GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

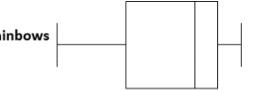
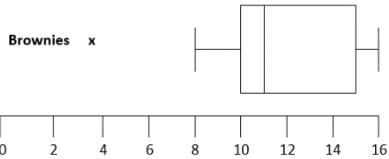
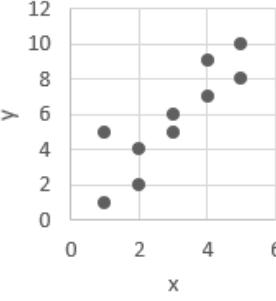
Week 1.1

<p>From the box plot below, state the IQR</p>  <p>10 11 12 13 14 15 16 17 18 19 20</p>	<p>Which group had a wider range of number of members?</p>  <p>Rainbows</p> <p>Brownies</p> <p>0 2 4 6 8 10 12 14 16</p>	<p>Give one example of where extrapolation would not work</p>																				
<p>State the value of the outlier on the box plot below</p>  <p>x</p> <p>10 20 30 40 50 60 70 80 90 100</p>	<p>What correlation can be seen on this scatter graph?</p>  <p>20</p> <p>15</p> <p>10</p> <p>5</p> <p>0</p> <p>x</p>	<p>What is meant by a PMCC value of -0.524?</p>																				
<p>Identify the skew shown on the box plot below</p> 	<p>The equation below shows the line of best fit between the cost of an ice cream sundae with different numbers of toppings (x). $y = 2.74 + 0.85x$</p> <p>What is meant by the value of 2.74 in this equation?</p>	<p>Calculate the value of the SRCC</p> <table border="1" data-bbox="1414 984 2021 1056"> <tr> <td>A</td><td>3</td><td>5</td><td>8</td><td>6</td><td>4</td><td>5</td><td>8</td><td>1</td><td>9</td> </tr> <tr> <td>B</td><td>22</td><td>24</td><td>27</td><td>25</td><td>19</td><td>26</td><td>23</td><td>28</td><td>18</td> </tr> </table>	A	3	5	8	6	4	5	8	1	9	B	22	24	27	25	19	26	23	28	18
A	3	5	8	6	4	5	8	1	9													
B	22	24	27	25	19	26	23	28	18													

Score / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

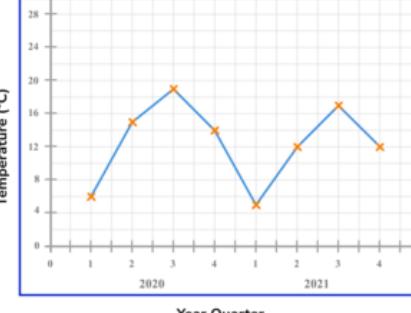
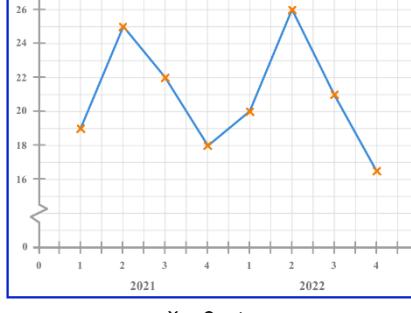
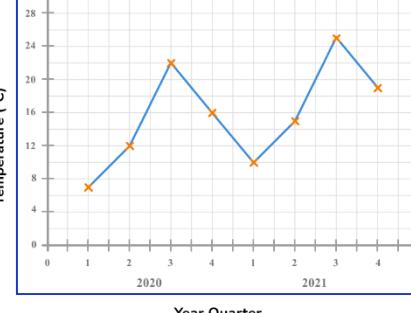
Week 1.2

<p>True or False?</p> <p>Estimates can never be taken using extrapolation</p>	<p>Which group had a higher number of members on average?</p> <p>Rainbows</p>  <p>Brownies</p>  <p>0 2 4 6 8 10 12 14 16</p>	<p>Plot the following data on a box plot below</p> <p>5, 8, 11, 17, 15, 2, 15, 7, 6, 10, 19, 10, 16, 8, 4</p> <p>0 2 4 6 8 10 12 14 16 18 20</p>
<p>What is meant by a PMCC value of +0.27?</p>	<p>What correlation can be seen on this scatter graph?</p>  <p>0 2 4 6</p> <p>0 2 4 6 8 10 12</p> <p>x</p> <p>y</p>	<p>Show that there are two outliers in the following data set</p> <p>77, 51.4, 82, 91.6, 87, 98, 59, 81.4, 76, 119, 85, 91</p>
<p>What does $\sum d^2$ mean in the formula for SRCC?</p>	<p>The equation below shows the line of best fit between the cost of an ice cream sundae with different numbers of toppings (x). $y = 1.14x + 4.55$</p> <p>What is meant by the value of 1.14 in this equation?</p>	<p>Calculate the skew of the data represented by the information below</p> <p>mean: 84.5 median: 80.2 standard deviation: 3.64</p>

Score / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

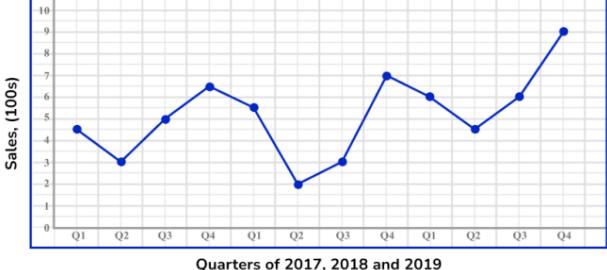
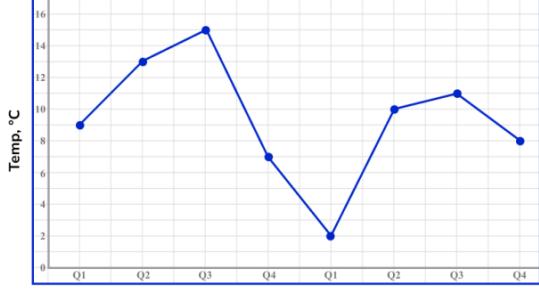
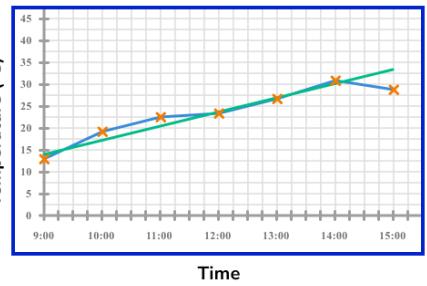
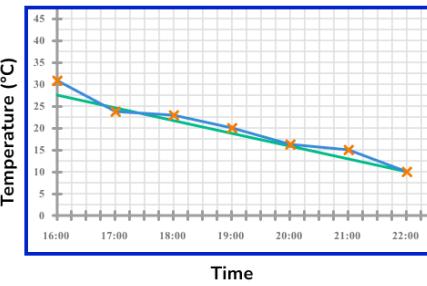
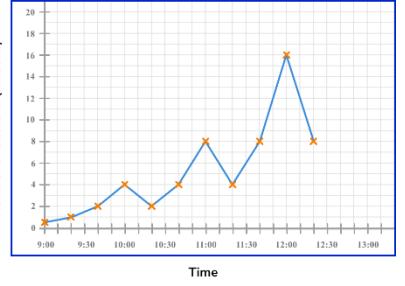
Week 2.1

<p>True or False?</p> <p>The following data can be plotted on a time series graph</p> <p>The amount of sunshine recorded each day for a month in Newquay and Glasgow</p>	<p>For the time series graph to the right, complete the 2 sentences</p> <p>The peak for each year is in _____</p> <p>The trough for each year is in _____</p>	 <table border="1"> <thead> <tr> <th>Year</th> <th>Quarter</th> <th>Temperature (°C)</th> </tr> </thead> <tbody> <tr><td>2020</td><td>1</td><td>18</td></tr> <tr><td>2020</td><td>2</td><td>25</td></tr> <tr><td>2020</td><td>3</td><td>22</td></tr> <tr><td>2020</td><td>4</td><td>17</td></tr> <tr><td>2021</td><td>1</td><td>20</td></tr> <tr><td>2021</td><td>2</td><td>26</td></tr> <tr><td>2021</td><td>3</td><td>21</td></tr> <tr><td>2021</td><td>4</td><td>16</td></tr> </tbody> </table>	Year	Quarter	Temperature (°C)	2020	1	18	2020	2	25	2020	3	22	2020	4	17	2021	1	20	2021	2	26	2021	3	21	2021	4	16
Year	Quarter	Temperature (°C)																											
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<p>True or False?</p> <p>The following data can be plotted on a time series graph</p> <p>The number of detentions achieved by students in classes 10A and 10B</p>	<p>For the time series graph to the right, complete the 2 sentences</p> <p>The peak for each year is in _____</p> <p>The trough for each year is in _____</p>	 <table border="1"> <thead> <tr> <th>Year</th> <th>Quarter</th> <th>Temperature (°C)</th> </tr> </thead> <tbody> <tr><td>2021</td><td>1</td><td>15</td></tr> <tr><td>2021</td><td>2</td><td>25</td></tr> <tr><td>2021</td><td>3</td><td>22</td></tr> <tr><td>2021</td><td>4</td><td>17</td></tr> <tr><td>2022</td><td>1</td><td>20</td></tr> <tr><td>2022</td><td>2</td><td>26</td></tr> <tr><td>2022</td><td>3</td><td>21</td></tr> <tr><td>2022</td><td>4</td><td>16</td></tr> </tbody> </table>	Year	Quarter	Temperature (°C)	2021	1	15	2021	2	25	2021	3	22	2021	4	17	2022	1	20	2022	2	26	2022	3	21	2022	4	16
Year	Quarter	Temperature (°C)																											
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2022	3	21																											
2022	4	16																											
<p>True or False?</p> <p>The following data can be plotted on a time series graph</p> <p>The proportion of employees who have been in work every day for a week</p>	<p>For the time series graph to the right, complete the 2 sentences</p> <p>The peak for each year is in _____</p> <p>The trough for each year is in _____</p>	 <table border="1"> <thead> <tr> <th>Year</th> <th>Quarter</th> <th>Temperature (°C)</th> </tr> </thead> <tbody> <tr><td>2020</td><td>1</td><td>6</td></tr> <tr><td>2020</td><td>2</td><td>12</td></tr> <tr><td>2020</td><td>3</td><td>21</td></tr> <tr><td>2020</td><td>4</td><td>15</td></tr> <tr><td>2021</td><td>1</td><td>10</td></tr> <tr><td>2021</td><td>2</td><td>15</td></tr> <tr><td>2021</td><td>3</td><td>24</td></tr> <tr><td>2021</td><td>4</td><td>18</td></tr> </tbody> </table>	Year	Quarter	Temperature (°C)	2020	1	6	2020	2	12	2020	3	21	2020	4	15	2021	1	10	2021	2	15	2021	3	24	2021	4	18
Year	Quarter	Temperature (°C)																											
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Score ___ / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

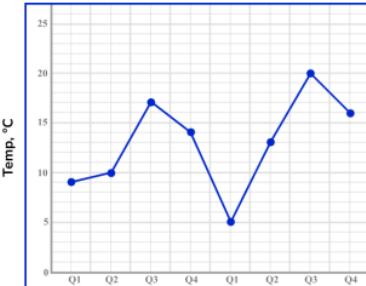
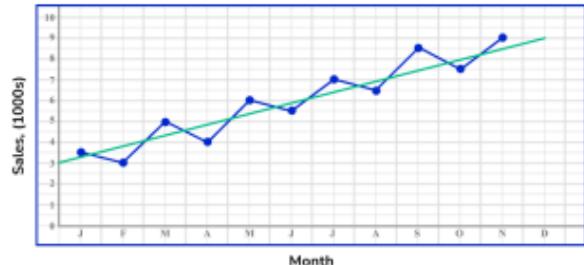
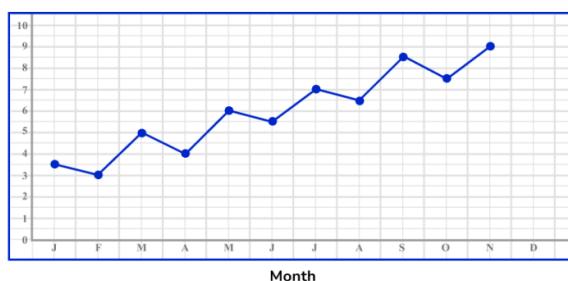
Week 2.2

<p>True or False?</p> <p>The following data can be plotted on a time series graph</p> <p>The profit earned by a company each month for a year</p>	<p>For the time series graph to the right, complete the 2 sentences</p> <p>The peak for each year is in _____</p> <p>The trough for each year is in _____</p>  <table border="1"> <caption>Estimated Data for Sales (100s) Time Series</caption> <thead> <tr> <th>Quarter</th> <th>2017 Q1</th> <th>2017 Q2</th> <th>2017 Q3</th> <th>2017 Q4</th> <th>2018 Q1</th> <th>2018 Q2</th> <th>2018 Q3</th> <th>2018 Q4</th> <th>2019 Q1</th> <th>2019 Q2</th> <th>2019 Q3</th> <th>2019 Q4</th> </tr> </thead> <tbody> <tr> <td>Sales (100s)</td> <td>4.5</td> <td>3.0</td> <td>5.0</td> <td>6.0</td> <td>5.5</td> <td>3.5</td> <td>4.5</td> <td>6.5</td> <td>5.5</td> <td>4.0</td> <td>5.5</td> <td>9.0</td> </tr> </tbody> </table>	Quarter	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	Sales (100s)	4.5	3.0	5.0	6.0	5.5	3.5	4.5	6.5	5.5	4.0	5.5	9.0																											
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<p>True or False?</p> <p>The following data can be plotted on a time series graph</p> <p>The absence data for woman with children compared to women without</p>	<p>For the time series graph to the right, complete the 2 sentences</p> <p>The peak for each year is in _____</p> <p>The trough for each year is in _____</p>  <table border="1"> <caption>Estimated Data for Temp, °C Time Series</caption> <thead> <tr> <th>Quarter</th> <th>2020 Q1</th> <th>2020 Q2</th> <th>2020 Q3</th> <th>2020 Q4</th> <th>2021 Q1</th> <th>2021 Q2</th> <th>2021 Q3</th> <th>2021 Q4</th> </tr> </thead> <tbody> <tr> <td>Temp, °C</td> <td>8.5</td> <td>13.0</td> <td>15.0</td> <td>7.5</td> <td>2.0</td> <td>9.5</td> <td>10.5</td> <td>8.0</td> </tr> </tbody> </table>	Quarter	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	Temp, °C	8.5	13.0	15.0	7.5	2.0	9.5	10.5	8.0																																			
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Temp, °C	8.5	13.0	15.0	7.5	2.0	9.5	10.5	8.0																																														
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Time	9:00	10:00	11:00	12:00	13:00	14:00	15:00																																															
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Number of Bacteria (millions)	0.5	1.0	3.0	4.0	8.0	4.0	16.0	8.0	0.5																																													

Score / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

Week 3.1

<p>True or False?</p> <p>The following data can be plotted on a time series graph</p> <p>The number of phone calls received each hour during the working day</p>	<p>For the time series graph to the right, complete the 2 sentences</p> <p>The peak for each year is in _____</p> <p>The trough for each year is in _____</p>	 <p>Temp. °C</p> <p>Quarters of 2018 and 2019</p>																																																								
<p>State the trend show by the time series graph</p>  <p>Sales, (1000s)</p> <p>Month</p>	<p>State the trend show by the time series graph</p>  <p>Sales, (1000s)</p> <p>Month</p>	<p>State the trend show by the time series graph</p>  <p>Sales, (1000s)</p> <p>Month</p>																																																								
<p>For the data below, state the appropriate moving average that should be used:</p> <table border="1" data-bbox="204 1081 788 1156"> <tr> <td>Q</td><td>1</td><td>2</td><td>3</td><td>4</td><td>1</td><td>2</td><td>3</td><td>4</td><td>1</td></tr> <tr> <td>£</td><td>29</td><td>13</td><td>18</td><td>20</td><td>24</td><td>12</td><td>15</td><td>19</td><td>20</td></tr> </table> <p>We should use a _____ - point moving average</p>	Q	1	2	3	4	1	2	3	4	1	£	29	13	18	20	24	12	15	19	20	<p>For the data below, state the appropriate moving average that should be used:</p> <table border="1" data-bbox="833 1081 1417 1156"> <tr> <td>day</td><td>M</td><td>T</td><td>W</td><td>Th</td><td>F</td><td>M</td><td>T</td><td>W</td><td>Th</td></tr> <tr> <td>f</td><td>2</td><td>3</td><td>7</td><td>8</td><td>11</td><td>2</td><td>5</td><td>9</td><td>10</td></tr> </table> <p>We should use a _____ - point moving average</p>	day	M	T	W	Th	F	M	T	W	Th	f	2	3	7	8	11	2	5	9	10	<p>For the data below, state the appropriate moving average that should be used:</p> <table border="1" data-bbox="1455 1081 2023 1156"> <tr> <td>Month</td><td>Jan</td><td>Jun</td><td>Jan</td><td>Jun</td><td>Jan</td><td>Jun</td><td>Jan</td></tr> <tr> <td>%</td><td>56</td><td>84</td><td>61</td><td>88</td><td>60</td><td>90</td><td>65</td></tr> </table> <p>We should use a _____ - point moving average</p>	Month	Jan	Jun	Jan	Jun	Jan	Jun	Jan	%	56	84	61	88	60	90	65
Q	1	2	3	4	1	2	3	4	1																																																	
£	29	13	18	20	24	12	15	19	20																																																	
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Score ____ / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

Week 3.2

<p>State the trend show by the time series graph</p>	<p>State the trend show by the time series graph</p>	<p>State the trend show by the time series graph</p>																																																																														
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Score ____ / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

Week 4.1

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

Q	3	4	1	2	3	4	1	2	3
\$	1.2	1.8	1.3	1.9	1.4	2.1	1.5	2.5	1.8

We should use a _____ - point moving average

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

Day	Mon	Wed	Fri	Mon	Wed	Fri	Mon
f	56	51	23	47	26	59	40

We should use a _____ - point moving average

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

Month	Feb	Aug	Feb	Aug	Feb	Aug	Feb
%	25	30	22	30	18	24	15

We should use a _____ - point moving average

Calculate the missing moving average for this data

Month	Jan	May	Sep	Jan	May	Sep	Jan	May
f	12	15	20	13	16	20	15	19
MA	13.5		16.5	14.5	18	17.5	17	

Calculate the missing moving average for this data

Day	M	T	W	Th	F	M	T
F	20	22	23	29	14	21	25
MA			21.6	21.8			

Calculate the missing moving average for this data

Q	1	2	3	4	1	2	3	4
\$	150	162	185	109	145	157	190	103
MA			151.5	150.25	149		148.75	

State the gradient of the trend line with equation:

$$y = 14.8 + 8.2x$$

State the gradient of the trend line with equation:

$$32.7x - 2.9 = y$$

State the gradient of the trend line with equation:

$$2y = 15.3 - 74x$$

Score ____ / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

Week 4.2

<p>Calculate the missing moving average for this data</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																						<p>Calculate the missing moving average for this data</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																																	<p>Calculate the missing moving average for this data</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																																								
<p>State the gradient of the trend line with equation:</p> $y = 4.6x - 12$	<p>State the gradient of the trend line with equation:</p> $y = 22.7 - 0.8x$	<p>State the gradient of the trend line with equation:</p> $15.3x - 12.7 = 3y$																																																																																													
<p>For a trend line drawn on a graph representing the sales figures (£ 000's) for a company per quarter, what does a gradient of 12.5 represent?</p>	<p>For a trend line drawn on a graph representing the number of visitors (hundreds) per day to a museum, what does a gradient of 22 represent?</p>	<p>For a trend line drawn on a graph representing the number of ice creams sold each moth by Mr Whippy, what does a gradient of -14.75 represent?</p>																																																																																													

Score / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

Week 5.1

<p>State the gradient of the trend line with equation: $y = 22.9 - 3.75x$</p>	<p>State the gradient of the trend line with equation: $125.9x + 15.3 = y$</p>	<p>State the gradient of the trend line with equation: $2y = 23.9x + 15200$</p>
<p>For a trend line drawn on a graph representing the number of people (thousands) who attend a concert each night, what does a gradient of 0.83 represent?</p>	<p>For a trend line drawn on a graph representing the amount of money people spend each month (\$) in an office on coffee, what does a gradient of -1.06 represent?</p>	<p>For a trend line drawn on a graph representing the number of fish (00's) estimated to be in the local pond each year, what does a gradient of -4.9 represent?</p>
<p>Jenny draws a trend line and reads that the number of visitors is 22500 for 2015 Q2</p> <p>Jenny plotted that for 2015 Q2 there was 21800 visitors</p> <p>Calculate the seasonal effect for 2015 Q2</p>	<p>State the formula for finding seasonal effect</p>	<p>It is plotted on the time series graph that Monday Week 1 has a value of £215</p> <p>The value from the trend line for Monday Week 1 reads as £190</p> <p>Calculate the seasonal effect for Monday Week 1</p>

Score ___ / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

Week 5.2

<p>For a trend line drawn on a graph representing the total expenditure (£ thousands) per term by the school, what does a gradient of 13.5 represent?</p>	<p>For a trend line drawn on a graph representing the number of patients admitted via A&E each day, what does a gradient of -13.7 represent?</p>	<p>For a trend line drawn on a graph representing the profit (£ 000's) made by a local business each year, what does a gradient of 7.5 represent?</p>
<p>A time series is plotted and a value of 13.9 is recorded for Monday Week 4</p> <p>The trend line value is also read for Monday Week 4 and the value 11.3 is found.</p> <p>Calculate the seasonal effect for Monday week 4</p>	<p>State the formula for finding seasonal effect</p>	<p>Izaak reads his trends line value for Q4 2019 as £25.40</p> <p>Izaak plotted Q4 2019 on the time series at £14.60</p> <p>Calculate the seasonal effect for Q4 2019</p>
<p>Interpret the mean seasonal effect for 2pm which was calculated as 34 000 calls</p>	<p>Interpret the mean seasonal effect for Q1 which was calculated as -£250</p>	<p>Interpret the mean seasonal effect for Friday which was calculated as 5500 visitors</p>

Score / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

Week 6.1

<p>True or False?</p> <p>The following data can be plotted on a time series graph</p> <p>The number of visitors each month at 2 different museums</p>	<p>For the data below, state the appropriate moving average that should be used:</p> <table border="1" data-bbox="826 409 1421 473"> <tr> <th>Time</th><td>12am</td><td>12pm</td><td>12am</td><td>12pm</td><td>12am</td><td>12pm</td></tr> <tr> <th>hits</th><td>34</td><td>49</td><td>38</td><td>51</td><td>40</td><td>58</td></tr> </table> <p>We should use a _____ - point moving average</p>	Time	12am	12pm	12am	12pm	12am	12pm	hits	34	49	38	51	40	58	<p>For a trend line drawn on a graph representing the number of sheep recorded in a field each month, what does a gradient of 15.3 represent?</p>													
Time	12am	12pm	12am	12pm	12am	12pm																							
hits	34	49	38	51	40	58																							
<p>State the formula for finding seasonal effect</p>	<p>Calculate the missing moving average for this data</p> <table border="1" data-bbox="826 679 1421 798"> <tr> <th>Day</th><td>Mon</td><td>Wed</td><td>Fri</td><td>Mon</td><td>Wed</td><td>Fri</td><td>Mon</td><td>Wed</td></tr> <tr> <th>f</th><td>26</td><td>15</td><td>20</td><td>29</td><td>18</td><td>22</td><td>31</td><td>20</td></tr> <tr> <th>MA</th><td></td><td>20.3</td><td></td><td>22.3</td><td>23</td><td>23.7</td><td>24.3</td><td></td></tr> </table>	Day	Mon	Wed	Fri	Mon	Wed	Fri	Mon	Wed	f	26	15	20	29	18	22	31	20	MA		20.3		22.3	23	23.7	24.3		<p>A time series is plotted and a value of 74 600 is plotted for 6pm</p> <p>The value on the trend line at 6pm is read at 86 300</p> <p>Calculate the seasonal effect at 6pm</p>
Day	Mon	Wed	Fri	Mon	Wed	Fri	Mon	Wed																					
f	26	15	20	29	18	22	31	20																					
MA		20.3		22.3	23	23.7	24.3																						
<p>State the trend shown by the time series graph</p>	<p>State the gradient of the trend line with equation:</p> $33.6 - 218x = y$	<p>Interpret the mean seasonal effect for Q2 which was calculated as -\$260</p>																											

Score ____ / 9

GCSE STATISTICS: TERM 10.5 MIXED TOPIC TASKS

Week 6.2

<p>For the data below, state the appropriate moving average that should be used:</p> <table border="1" data-bbox="206 404 808 468"> <thead> <tr> <th>Month</th><th>Jan</th><th>Feb</th><th>Mar</th><th>Apr</th><th>May</th><th>Jun</th></tr> </thead> <tbody> <tr> <td>£</td><td>550</td><td>684</td><td>214</td><td>289</td><td>305</td><td>420</td></tr> </tbody> </table> <p>We should use a _____ - point moving average</p>	Month	Jan	Feb	Mar	Apr	May	Jun	£	550	684	214	289	305	420	<p>For the time series graph to the right, complete the 2 sentences</p> <p>The peak for each year is in _____</p> <p>The trough for each year is in _____</p>														
Month	Jan	Feb	Mar	Apr	May	Jun																							
£	550	684	214	289	305	420																							
<p>Calculate the missing moving average for this data</p> <table border="1" data-bbox="206 674 808 786"> <thead> <tr> <th>Time</th><th>9am</th><th>12pm</th><th>3pm</th><th>9am</th><th>12pm</th><th>3pm</th><th>9am</th><th>12pm</th></tr> </thead> <tbody> <tr> <td>f</td><td>0.5</td><td>0.2</td><td>0.8</td><td>0.6</td><td>0.1</td><td>0.4</td><td>0.9</td><td>0.3</td></tr> <tr> <td>MA</td><td></td><td>0.5</td><td>0.53</td><td>0.5</td><td>0.37</td><td></td><td>0.53</td><td></td></tr> </tbody> </table>	Time	9am	12pm	3pm	9am	12pm	3pm	9am	12pm	f	0.5	0.2	0.8	0.6	0.1	0.4	0.9	0.3	MA		0.5	0.53	0.5	0.37		0.53		<p>For a trend line drawn on a graph representing the number of sales per quarter, what does a gradient of -2500 represent?</p>	<p>State the trend show by the time series graph</p>
Time	9am	12pm	3pm	9am	12pm	3pm	9am	12pm																					
f	0.5	0.2	0.8	0.6	0.1	0.4	0.9	0.3																					
MA		0.5	0.53	0.5	0.37		0.53																						
<p>State the gradient of the trend line with equation:</p> $y = 156.3x + 22.7$	<p>Phylliss drew a time series with a trend line. From the trend line the value on Friday Week 1 reads as 13.5</p> <p>Phylliss had plotted a value on the time series for Friday Week 1 as 10.7</p> <p>Calculate the seasonal effect for Friday Week 1</p>	<p>Interpret the mean seasonal effect for 5pm which was calculated to be -200 visitors.</p>																											

Score ____ / 9