

## Bridging Unit Tasks: AS Core Maths 2020

Points	Tasks																											
40	<p><b>Research: Taxation in the UK</b></p> <p>Research taxation in the UK and write a summary of how it is calculated. this you tube clip may help with the general idea of how it works:  <a href="https://www.youtube.com/watch?v=fCRsO22eHEY">https://www.youtube.com/watch?v=fCRsO22eHEY</a></p> <p>This website will give you the up to date figures:  <a href="https://www.gov.uk/income-tax">https://www.gov.uk/income-tax</a></p>																											
40	<p><b>Real world statistics.</b></p> <p>Watch the following video on world statistics:  <a href="https://www.youtube.com/watch?v=hVimVzgtD6w">https://www.youtube.com/watch?v=hVimVzgtD6w</a></p> <p>Write down 5 facts which you found interesting, or surprised you and why.</p>																											
	<p><b>Interpreting statistics and writing a statistical report.</b></p> <p>The average resting heart beat for an adult in the United Kingdom is <b><u>72 beats per minute</u></b> and the <b><u>standard deviation is 11 beats</u></b>. Resting heartbeat is the number of beats in one minute when a person is at rest.</p> <p>Eight sports stars from a group of rugby, netball and dart players were asked to measure their own resting heart beats and the results are given below:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #d9e1f2;"> <th>Rugby</th> <th>Netball</th> <th>Darts</th> </tr> </thead> <tbody> <tr><td>88</td><td>80</td><td>98</td></tr> <tr><td>45</td><td>62</td><td>102</td></tr> <tr><td>49</td><td>72</td><td>72</td></tr> <tr><td>65</td><td>71</td><td>74</td></tr> <tr><td>62</td><td>79</td><td>69</td></tr> <tr><td>63</td><td>65</td><td>85</td></tr> <tr><td>59</td><td>62</td><td>84</td></tr> <tr><td>75</td><td>85</td><td>89</td></tr> </tbody> </table> <p>Use the following to complete one or more of the tasks below:</p>	Rugby	Netball	Darts	88	80	98	45	62	102	49	72	72	65	71	74	62	79	69	63	65	85	59	62	84	75	85	89
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60	<p><b><u>Task 1: Averages</u></b></p> <p>Calculate the mean, mode, median and range of all three sets of data.</p> <p>Draw a box plot for each group – how do the box plot compare?</p>																											

	<p>How do each team compare to the national average? Which of the averages are useful and which ones are not useful?</p>
60	<p><b><u>Task 2: Research- Standard Deviation</u></b></p> <p>What is the definition of the standard deviation of a data set? Can you find any formulae linked to standard deviation?</p> <p>Calculate the standard deviation for each of the sports teams and comment on what this is telling you about each data set.</p>
60	<p><b><u>Task 3: Sampling</u></b></p> <p>The research above has been collected using a random sampling technique. Research three other sampling methods that could be used and comment on the usefulness of each method. <b>Hint: You may wish to consider quota, stratified, cluster and systematic methods of sampling.</b></p> <p>The sample size for the data sets is eight. Is this a big enough sample? What would you recommend the sample size to be? What are the dangers of a small sample?</p>