Bridging Unit Tasks: AS Core Maths 2021

Points	Tasks
	Research: Taxation in the UK 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: https://www.youtube.com/watch?v=fCRsO22eHEY This website will give you the up to date figures: https://www.gov.uk/income-tax
	Real world statistics. Watch the following video on world statistics: https://www.youtube.com/watch?v=hVimVzgtD6w Write down 5 facts which you found interesting, or surprised you and why.
	Interpreting statistics and writing a statistical report. The average resting heart beat for an adult in the United Kingdom is **72 beats per minute** and the **standard deviation is 11 beats**. Resting heartbeat is the number of beats in one minute when a person is at rest. 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: <table><tr><th>Rugby</th><th>Netball</th><th>Darts</th></tr><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></table> Use the following to complete one or more of the tasks below:
	Task 1: Averages Calculate the mean, mode, median and range of all three sets of data. Draw a box plot for each group – how do the box plot compare?

	How do each team compare to the national average? Which of the averages are useful and which ones are not useful?
60	**Task 2: Research- Standard Deviation** What is the definition of the standard deviation of a data set? Can you find any formulae linked to standard deviation? Calculate the standard deviation for each of the sports teams and comment on what this is telling you about each data set.
60	**Task 3: Sampling** 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. **Hint: You may wish to consider quota, stratified, cluster and systematic methods of sampling.** 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?