Student Name ______________________

Eastern Goldfields College

Mathematics Essentials 2019

Task 6: Investigation – 'Keeping Height at Arm's Length'

Task weighting: 9% **Time** : 50 minutes **Marks** : 23

Part B follows on from the lead up statistical investigation activity on The Premier League wages and profit. You will be allowed to use your calculator.

Part B: Which, if any, is the better predictor for height – arm span or the length of a person's right foot?

A completed statistical investigation should include:

- an introduction that outlines the question to be answered and any further questions that could be explored
- selection and application of suitable mathematical and graphical techniques you have studied to analyse the provided data
- interpretation of your results, relating your answer to the original problem
- communication of your results and conclusions in a concise, systematic manner.

Your investigation report should include the following: **(23 marks**)

1. Introduction (3 marks)
    - write two or three sentences providing an overview of your investigation
2. Numerical and graphical analysis (9 marks: 4, 5)
    - choose various statistical measures you have studied to analyse the data
    - consider the most appropriate graphs which represent the data provided
3. Interpretation of the results of this analysis in relation to the original question (7 marks)
    - describe any trend and pattern in your data (two to three sentences)
    - state how your data relates to the original problem (two to three sentences)
    - use your knowledge and understanding gained in this unit to explain your results in one paragraph
4. Conclusion (4 marks)
    - Summarise your findings and conclusions in one paragraph.

DATA

A sample of data from the 2014 *CensusAtSchool* survey is provided below. The data includes the height, arm span and length of right foot for a random sample of 30 students.

Height	Arm span	Right foot length
170	71	23
155	150	21
169	173	26
177	176	23
153	149	26
150	166	25
159	156	26
170	162	26
169	154	26
162	152	26
158	150	30
169	174	28
55	55	23
165	160	36
147	142	21
175	176	25
166	157	26
150	136	21
176	171	24
163	164	23
162	130	25
147	27	24
176	176	26
148	149	23
156	155	24
172	178	25
150	142	24
158	80	25
145	147	21
167	169	21