Student 5: Low Achieved

NZQA Intended for teacher use only

What is the relationship between people's cubit length and their heights?

(Cubit length is from the elbow to the tip of the middle finger.)

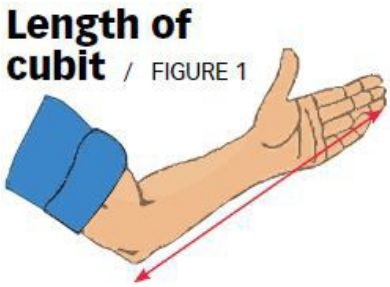
Question:

I wonder if there is a relationship between the cubit length and height of year 10 students. I think that as the height of the student increases the cubit length of the student will also increase, this is because as we grow we grow in a symmetrical way, we do not grow 1 meter in our cubit length and then 1 meter in our height so I think that there will be a positive relationship between the height and cubit length of year 10's in my math class. 1

My partner and I decided to see if there is a relationship between the height (in centimeters) and cubit length (in centimeters) of year 10 students. We chose 25 of our year 10 classmates and measured each student's height to the nearest centimeter, using a stadiometer (equipment used to measure height) and a ruler that will be used to put on student's head to transfer the correct height. we will need to make sure that the ruler is hard and does not bend so that our results won't be inaccurate. Before measuring they will need to remove their shoes. Briella will then place a hard ruler on top of their heads and read the measurement that is parallel to the ruler in Centimeters out loud and I will record the measurement on my computer next to the student's name. 3

We then measured each student's cubit length to the nearest centimeter, using a tape measure (equipment used to measure cubit length) measuring from the elbow to the tip of the middle finger. My partner will use a tape measure to measure the length of the student's cubit length and then we will collect the data. See the diagram below. 2

For both tests we kept a list of the names of the students so that we didn't measure the same person twice and so that we could re-measure a person if necessary, if a measurement seemed wrong.



Student	Height (cm)	Cubit Length (cm)
1	163	43
2	166	43
3	165.1	42
4	163.5	45
5	169	47.5
6	174	46.5
7	175	48.2
8	174.5	47.4
9	163	44
10	163	43
11	164.5	44
12	171.4	45.5
13	172.3	46
14	174.5	49.5
15	169	45
16	175.2	47
17	174.5	43
18	156	43.5
19	165.3	44
20	159	43
21	168.5	44
22	178.5	50
23	159	43.7
24	170	44
25	180.5	50

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Discussion of the features on the graph

I notice that there is a positive relationship between the height and cubit length. It is a positive relationship because the line has a positive gradient and is sloping up towards the right.

This means that as one increases the other tends to increase. I also notice that the strength of the relationship is a moderately weak one. This is because the points are fairly scrambled from the trend line.

For every 2cm in height, cubit length increases by 0.289

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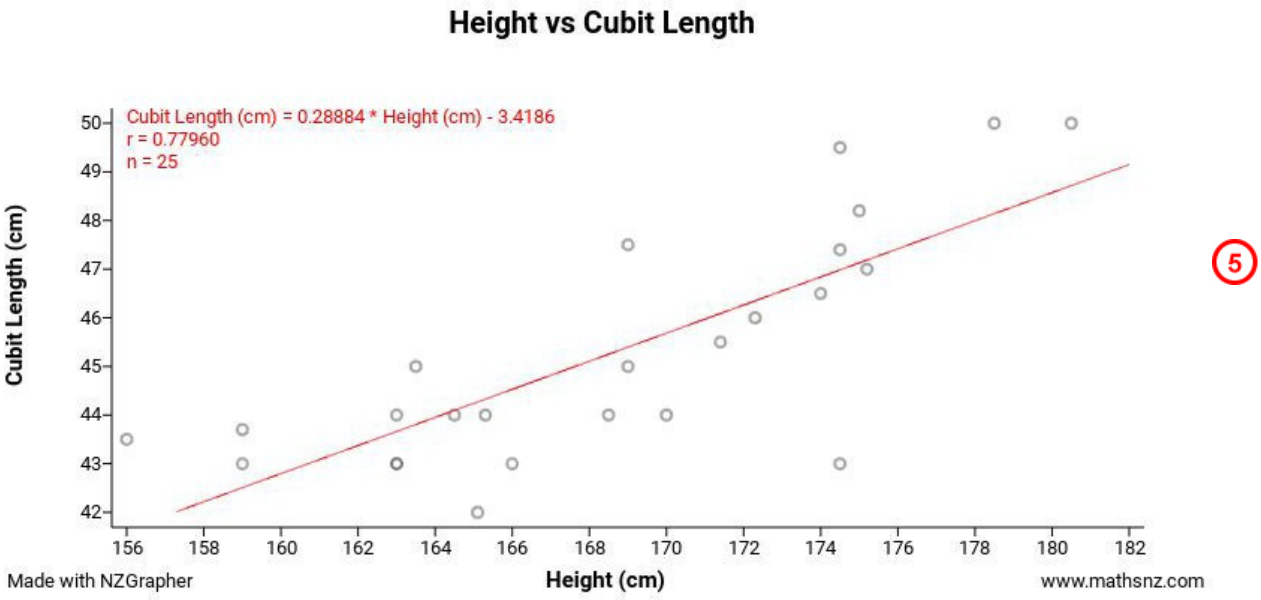

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