



Measuring in Feet

Makes a change from centimetres!

So you think your maths books are old? Here is an extract from "Robinson's Progressive Practical Arithmetic for Common Schools and Academies" 1877

| | | | |
|---|---|---------|-----|
| Surveyor's Long Measure | | | |
| A Gunter's Chain, used by land surveyors, is 4 rods or 66 feet long, and consists of 100 links. | | | |
| 7.92 inches | = | 1 link | l. |
| 25 links | = | 1 rod | rd. |
| 4 rods or 66 feet | = | 1 chain | ch. |
| 80 chains | = | 1 mile | mi. |

Going even further back to the 16th Century we discover the origin of the Rod or *Rood* in a German treatise which instructs the surveyor to establish the length of a rood thus:

"Stand at the door of a church on a Sunday and bid 16 men to stop, tall ones and small ones, as they happen to pass out when the service is finished; then make them put their left feet one behind the other, and the length thus obtained shall be a right and lawful rood to measure and survey the land with, and the 16th part of it shall be a right and lawful foot."

(Compton's Pictured Encyclopaedia, 1929 edition)

CensusAtSchool has collected thousands of right foot lengths from children. If we take random samples of 16 foot lengths do you think we will keep getting the same total length?

Below there are 96 foot lengths (cm) from *CensusAtSchool* 2010/11. Choose 16 using a random method. (You may need to discuss what this is.) Add up the lengths and write down your total.

Repeat a number of times then try to come to a conclusion.

| | | | | | | | | | | | |
|----|----|----|------|----|----|----|------|----|----|----|----|
| 23 | 25 | 25 | 22.8 | 24 | 22 | 16 | 28 | 30 | 22 | 23 | 24 |
| 26 | 29 | 29 | 23.5 | 24 | 26 | 24 | 25 | 20 | 25 | 26 | 26 |
| 12 | 21 | 21 | 21 | 25 | 25 | 21 | 24 | 27 | 24 | 24 | 22 |
| 26 | 26 | 26 | 30 | 23 | 26 | 25 | 24 | 30 | 25 | 27 | 13 |
| 27 | 21 | 21 | 23 | 35 | 30 | 23 | 26 | 12 | 35 | 25 | 26 |
| 30 | 21 | 21 | 27 | 25 | 20 | 24 | 23 | 25 | 25 | 30 | 23 |
| 25 | 28 | 28 | 25.5 | 27 | 32 | 21 | 25 | 23 | 25 | 31 | 20 |
| 20 | 23 | 20 | 27 | 22 | 30 | 30 | 27.4 | 21 | 23 | 20 | 23 |