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| **Define**Standard deviationVarianceArithmetic meanSigma.jpgFrequency | **Research**Find out how to calculate standard deviation using the statistics mode on your calculator. | **Memorise**The variance is the **mean of the squares** minus **the square of the mean**Standard deviation = $\sqrt{variance}$ |
| **Practise and Apply**

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| 1. Find the standard deviation of the data set:

{16, 4, 3, 1, 5, 9, 7, 7, 21, 16, 20} | 1. Two companies in Malaysia and China produce iPods. Estimate the mean and standard deviation of the hourly production of these two companies for the last month. Compare the mean and standard deviation of the two production teams and draw a conclusion on productivity.

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| --- | --- |
| **Malaysia** | **China** |
| iPods per hour | Frequency | iPods per hour | Frequency |
| 400 – 440 | 6 | 400 – 440 | 4 |
| 441 – 480 | 8 | 441 – 480 | 10 |
| 481 – 520 | 12 | 481 – 520 | 11 |
| 521 - 560 | 4 | 521 - 560 | 5 |

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| 1. The table below shows the number of occupants of each house in a road. Find the standard deviation of the number of occupants:

|  |  |
| --- | --- |
| **Occupants** | **Number of houses** |
| 1 | 2 |
| 2 | 5 |
| 3 | 6 |
| 4 | 10 |
| 5 | 8 |
| 6 | 1 |

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