

## APPLICATIONS HOMEWORK 2

### Non Calculator:

The standard deviation of 1, 2, 2, 2, 8 is equal to  $\sqrt{a}$ .

Find the value of  $a$ .

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Standard deviation:  $s = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}} = \sqrt{\frac{\sum x^2 - (\sum x)^2 / n}{n - 1}}$ , where  $n$  is the sample size.

### Calculator:

James paid £297.50 for a laptop in a sale.

The discount in the sale was 15%.

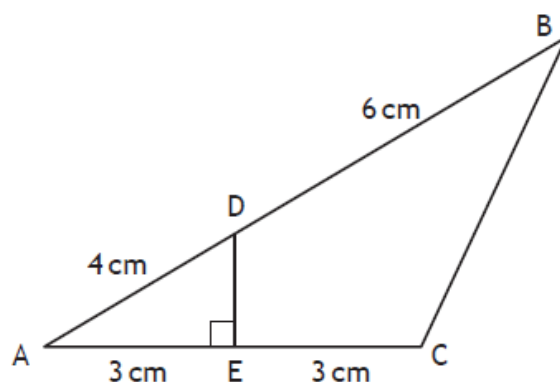
Calculate the original price of the laptop.

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### Challenge Question:

In the diagram below:

- DE is perpendicular to AC.
- AD = 4 centimetres.
- DB = 6 centimetres.
- AE = EC = 3 centimetres.



Calculate the length of BC.

Give your answer correct to one decimal place.

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