# Maths skills – M0.4 Estimate results

## Teacher answers

### Quiz

1. Estimate these and check your approximations using a calculator

|  |  |  |
| --- | --- | --- |
| a) | 15.6 x 24.4 | 🡪 15 x 25 = 375 🡪 380.64 |
| b) | 8.8 x 32.3 | 🡪 10 x 30 = 300 🡪 284.24 |
| c) | 15.6/24.4 | 🡪 15/25 = 3/5 = 6/10 = 0.6 🡪 0.64 |
| d) | 8.8/32.3 | 🡪 8/32 = ¼ = 0.25 🡪 0.27 |

2. Here’s an example from ecological sampling. A 0.5 m x 0.5 m quadrat was used to count plants. Ten samples were taken and the plants in each quadrat counted.

The values were: 7, 3, 6, 12, 4, 8, 8, 9, 10, 2

Make an estimate of the density of plants per m2.

Now calculate the density of plants per m2.

~ 70 plants in total 🡪 Calculated as 69

Area of 1 quadrat = 0.5 x 0.5 = 0.25 m2.

Total area sampled of 10 x 0.25 = 2.5 m2.

To get density per m2, divide number of plants by area sampled

= ~70/2.5 = 28 plants per m2 = 28 plants m-2

The actual calculated value is 69/2.5 = 27.6 plants m-2 or 2.76 x 10 plants m-2.

3. Estimate whether the following calculations will give an answer that is greater than, or less than, one.

less than 1



more than 1



less than 1



more than 1



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