

## SQA Past paper questions

### 2024 - Paper 1 - Question 2



Hamish is doing scientific research involving foals (baby horses).

For his research, Hamish must use foals that weigh  $49.5 \text{ kg} \pm 2 \text{ kg}$ .

Below are the weights of 20 foals, in kilograms.

49.5	46.9	47.9	51.6	49.7
49.4	51.5	47.0	48.6	50.6
51.8	48.8	48.0	47.5	50.0
51.4	47.4	51.0	49.1	47.6

Calculate the percentage of foals that  
Hamish **cannot** use for his research.

3

Click [here](#) for video solution. 

### 2022 - Paper 2 - Question 6(d)

Pepe inspected the fire extinguishers of a local business.

The fire extinguishers were considered safe if they weighed  $10.4 \text{ kg} \pm 10\%$ .

The weights, in kilograms, of the fire extinguishers inspected are shown.

9.80, 11.67, 9.12, 10.94, 11.10, 9.27, 10.55



Calculate the maximum and minimum safe  
weights and determine the fraction  
that were considered safe.

3

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### 2021 - Paper 1 - Question 3

A polling company predicted the result of an election.

They claimed that the prediction would be within  $\pm 3\%$  of the result.

Prediction	Result
3400 votes	3300 votes



Determine if the company's claim was correct.

2

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### 2019 - Paper 1 - Question 1

Helen makes and sells candles.

These candles should be 22.5 cm tall.



She rejects any candle that is outwith the range of  $\pm 2$  mm of this height.

Below are the heights, in centimetres, of 10 candles chosen at random.

22.2, 22.6, 22.5, 22.9, 22.3, 21.6, 22.6, 22.4, 22.7, 22.8

Calculate the percentage of candles that she rejects. 3

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### 2018 - Paper 1 - Question 1

A baking company will reject cakes if they do not weigh  $400\text{ g} \pm 3\%$ .

The weights of a sample of 13 cakes are shown below.



385, 391, 409, 403, 386, 412, 413, 407, 400, 390, 387, 405, 388

Calculate the fraction of cakes that will be rejected.

Use your working to justify your answer. 3

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### 2017 - Paper 1 - Question 1

A wall is built using foam bricks which are  $194 \pm 2$  mm long.

The wall is 50 bricks long.



What is the minimum length of the wall? 2

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### 2015 - Paper 1 - Question 4

A company orders a batch of washers with a thickness of  $2.4 \pm 0.05$  mm.

A quality control inspector takes a sample from the batch of washers.

The thicknesses, in mm, of the washers in this sample are shown below.

2.44, 2.37, 2.36, 2.45, 2.35

2.35, 2.44, 2.43, 2.34, 2.40

2.40, 2.41, 2.39, 2.38, 2.46

2.41, 2.39, 2.53, 2.36, 2.37

For the batch to be accepted, at least  
88% of the washers in this sample  
must be within tolerance.

Will the batch be accepted?      3

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