

a) How many sig figs:

18.012 5

b) Round to 1 sig fig:

20

c) Find the uncertainty of the following data set:

18.012, 18.016, 18.025

$$\text{Range } \frac{18.025 - 18.012}{2} = \frac{0.013}{2} = 0.0065$$

→ 0.0065 → 0.007

Calculate the **average and uncertainty** of the following data set:

$$\frac{0.0024 + 0.0031 + 0.0030 + 0.0025}{4}$$

$$= 0.00275$$

$$\text{Range: } \frac{0.0031 - 0.0024}{2} = \frac{0.0007}{2} = 0.00035$$

$$0.00035 \rightarrow \boxed{0.0004}$$

$$0.00275 \pm 0.0004$$

$$0.0028 \pm 0.0004$$

- Correct the following averages and uncertainties:

> 1.023 ± 0.0034 ~~0.0034~~ 0.003

> 493.1 ± 2 ~~0.2~~ 493 ± 2

- Find the average and uncertainty of the following data set:

• $109450, + 109562, - 109729, + 109103$

$= 109461 \rightarrow$ Average

$\frac{109729 - 109103}{2} = 313 \rightarrow 300$

109400 ± 300
 109500 ± 300

Conclusion:

Conclusive statement:

Horizontal relationship

Quadratic

Supporting data

Maximum value and minimum value

My maximum Angle/ mass/length was ___ with a period of _____. My minimum angle/mass/length was ___ with a period of _____.

State the equation:

y is the period

$y = 1.6$
 $L = 2.2p^2$

My equation is $p=1.1s$, where p is the period of the pendulum.

My equation is $y=30x^2$ where y is the length and x is the period.

Scientific Explanation :

Prediction

COncidence



Conclusion

Conclusive statement

Horizontal relationship



Quadratic Relationship

Supporting Data:

Maximum and minimum data

My maximum mass/angle/length was ____ with a period of ____ . my minimum mass/angle/length was ____ with a period of ____.

state the equation:

$$y = 33x^2 \quad p = 1.6$$

where y is the period and x is the length.

where p is the period.

Scientific Explanation

Prediction

Confidence:

Conclusive Statement:

Supporting Data:

Maximum and minimum

My maximum angle/mass/length was ____ with a period of ____ and my minimum angle/mass/length was ____ with a period of ____.

State the equation:

$$p = 1.1s$$

$$y = 28x^2$$

Scientific Explanation:

Prediction:

- Correct the following averages and uncertainties:
 - > 1.023 ± 0.0034
 - > 493.1 ± 2
- Find the average and uncertainty of the following data set:
- 109450, 109562, 109729, 109103

Calculate the **average and uncertainty** of the following data set:

$$\frac{0.0024 + 0.0031 + 0.0030 + 0.0025}{4}$$

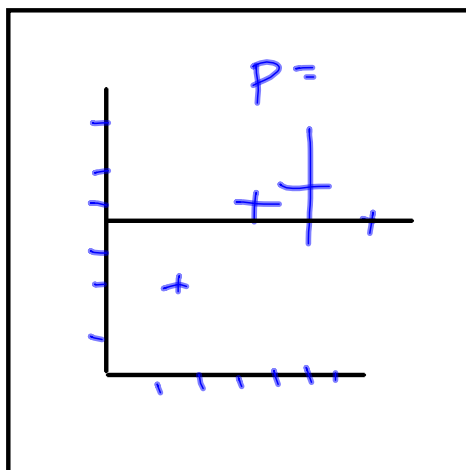
$$= 0.00275 \rightarrow \text{Average}$$

$$0.0031 - 0.0024 = 0.0007$$

$$\frac{0.0007}{2} = 0.00035 \rightarrow 0.0003$$

$$0.00275 \pm 0.0004$$

$$0.0028 \pm 0.0004$$



a) How many sig figs:

18.012

b) Round to 1 sig fig:

20

c) Find the uncertainty of the following data set:

Ans: $\frac{18.012 + 18.016 + 18.025}{3} = 18.017$

$18.025 - 18.012 = \frac{0.013}{2} = 0.0065$

0.01
0.006 ←
0.007 ←