Monday, September 24/12
Science 10

Announcements

1. Bell Work
2. ICA (In Class Assignment) - Return
3. Textbook Scavenger Hunt - Check
4. Certainty Rule for Multiplying and Dividing (Page 345)
5. Precision Rules for Adding and Subtracting (Page 346)
6. Page 349: Understanding Concepts #6-8

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7. Converting Units (Page 348)
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9. Time
10. Speed
11. Uniform Motion
12. Tumble Buggy Activity

Bell Work - Science 10 : P4 -Sept. 21/12
P3 - Sept. 24/12

Copy each of the following measured or calculated values.

a) Place a check mark above each certain digit and a question mark above each estimated or uncertain digit.

b) State the certainty of each measurement as a number of significant digits.

(i) 45.09 kg

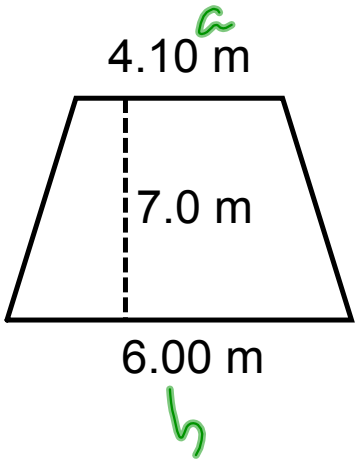
(ii) 0.00206 km

(iii) 7.20×10^2 s

(iv) 5090.0 km

Bell Work - Science 10 : P4 -Sept. 24/12

Calculate the area of the trapezoid below to the correct number of significant digits.



$A = \frac{1}{2}(a+b)h$ ✓

$A = \frac{1}{2}(4.10\,m + 6.00\,m)(7.0\,m)$

3 SD 3 SD 2 SD

$A = 35.35\,m^2$

display

$A = 35\,m^2$

Precision Rule for Adding and Subtracting Page 346

Precision is measured by the number of decimal places in a measured or calculated value.

When adding and subtracting measured values of known precision, the answer has the same number of decimal places as the measured value with the fewest decimal places.

Example:

$$\begin{array}{rl} & 1.2 \text{ mm} \\ & 3.05 \text{ mm} \\ + & 7.60 \text{ mm} \\ \hline & 11.85 \text{ mm} \Rightarrow 11.9 \text{ mm} \end{array}$$

Example: Subtract 21.423 cm from 137.21 cm.

$$\begin{array}{rl} & 137.21 \text{ cm} \\ - & 21.423 \text{ cm} \\ \hline \Rightarrow & 115.787 \text{ cm} \\ & 115.79 \text{ cm} \end{array}$$

Understanding Concepts - Page 349: #6-8

#6. a) $22.4\ \text{h} \times \frac{0.1\ \text{mm}}{1\ \text{h}}$ (1SD, 3SD)

hours $\Rightarrow 2.24\ \text{mm}$ (1SD)

$\Rightarrow 2\ \text{mm}$

b) $\frac{465\ \text{km}}{5.21\ \text{h}} = 89.3\ \frac{\text{km}}{\text{h}}$ (3SD, 3SD)

89.25 14... (3SD)

d) $72.5\ \text{min} \times \left[\frac{1\ \text{h}}{60\ \text{min}}\right] = 1.21\ \text{h}$ (3SD, 3SD)

defined value

e) $17.5\ \text{mL} + 95\ \text{mL} + 8.25\ \text{mL}$

$= 120.75\ \text{mL}$

$= 121\ \text{mL}$

#7. $C = 2\pi r$ $\quad r = ?$

$\frac{C}{2\pi} = r$