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1. ICA (In Class Assignment) - Return
 2. Textbook Scavenger Hunt - **Complete by Monday of Next Week**
 3. Certainty and Significant Digits (Page 344)
 4. Page 349: Understanding Concepts #1-4
 5. Certainty Rule for Multiplying and Dividing (Page 345)

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Certainty and Significant Digits (Page 344)

The certainty of a measurement is determined by its number of significant digits.

All digits included in a stated value (except leading zeros) are significant digits.

The greater the number of significant digits, the greater the certainty of the measurement.

Table 1 Certainty of Measurements

Measurement	Certainty
307.0 cm	4 significant digits
61 m/s	2 significant digits
0.03 m	1 significant digit
0.5060 km	4 significant digits
3.00×10^8 m/s	3 significant digits

Table 2 Exact Values

Counted values	Defined values
4 dogs	1000 m/km
10 CDs	10 mm/cm
3 Blue Jays	1 h/60 min

Understanding Concepts - Page 349, #1-4

10 minutes

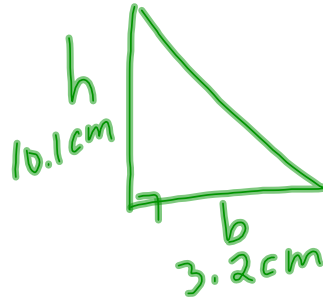
- meter, m (2)
 - second, s
- 10.15 cm
- 7.65 mm
 - 0.084 km
- 32.674 km
 $\boxed{32.7 \text{ km}}$
 - 0.003922 g
 0.00392 g
 - 107.5 s
 108 s

Certainty Rule for Multiplying and Dividing

Page 345

When multiplying and/or dividing, the answer has the same number of significant digits as the measurement with the fewest number of significant digits.

Example:



What is the area of the triangle?

A → area
h → height
b → base

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2} (3.2 \text{ cm}) (10.1 \text{ cm})$$

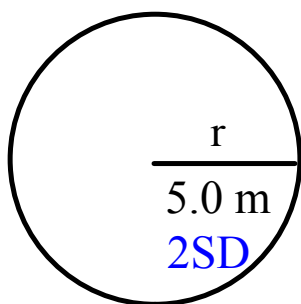
2SD 3SD

$$\left| \begin{array}{l} 0.5 \times 3.2 \times 10.1 \\ x \cdot x = x^2 \end{array} \right.$$

$$A = \underline{16.16} \text{ cm}^2$$

$$A = \underline{16} \text{ cm}^2 \leftarrow 2SD$$

Example - What is the area of the circle?



$$A = \pi r^2$$

$$A = \pi(5.0 \text{ m})^2$$

$$A = \underline{\underline{78.53981634}} \text{ m}^2$$

$$A = 79 \text{ m}^2$$

2SD