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Significant Digits - Rounding Quiz: Solutions

A. Write the number of significant digits

3	306 m	3	7.60 N	1	0.08 s
3	0.00306 g	2	1500 L	3	0.0100 m
2	2.7×10^6 kg	2	0.75 ft	5	3200.0 ft
7	28459.02 s	3	2.20 torr	2	580 mm Hg

B. Calculate the following observing significant digit rules

$\begin{array}{r} 5.20 \text{ m} \\ 0.044 \text{ m} \\ + 0.7 \text{ m} \\ \hline 5.9 \text{ m} \end{array}$	$\begin{array}{r} 704. \text{ cm} \\ 2.19 \text{ cm} \\ + 3.9 \text{ cm} \\ \hline 710. \text{ cm} \end{array}$	$\begin{array}{r} 400.391 \text{ g} \\ 72.4 \text{ g} \\ + 0.0005 \text{ g} \\ \hline 472.8 \text{ g} \end{array}$
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$\begin{array}{r} 65.6 \text{ s} \\ - 184.050 \text{ s} \\ \hline - 118.4 \text{ s} \end{array}$	$\begin{array}{r} 72.66 \text{ g} \\ - 9.321 \text{ g} \\ \hline 63.34 \text{ g} \end{array}$	$\begin{array}{r} 375.2 \text{ m} \\ - 58.09 \text{ m} \\ \hline 317.1 \text{ m} \end{array}$
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$$15 \text{ m} \times 432 \text{ m} = 6500 \text{ m}^2$$

$$624.7 \text{ m} \div 11.9 \text{ s} = 52.5 \text{ m/s}$$

$$0.636 \text{ in} \times 0.050 \text{ in} = 0.032 \text{ in}^2$$

$$\$22.19 \div 3.5 \text{ yd} = \$6.3/\text{yd}$$

$$3.5 \text{ mm} \times 8132 \text{ mm} = 28000 \text{ mm}^2$$

$$100 \text{ miles} \div 2.1 \text{ hours} = 50 \text{ miles/hour}$$

A box measures 24.3 cm x 4.2 cm x 28.6 cm. Determine the volume.
 $(24.3 \text{ cm})(4.2 \text{ cm})(28.6 \text{ cm}) = 2900 \text{ cm}^3$

Three test scores were 97.6 %, 83.4 %, and 95.2 %. Determine the average.
 $(97.6 \% + 83.4 \% + 95.2 \%) \div 3 = 92.1 \%$