

Chapter 2 Questions

17-Sept-2007

5. 3rd figure in the length of the pin is uncertain, scale of ruler has tenths. Pin length is 2.85 cm.
- 6 Ruler scale is marked to the nearest tenth of a cm. 2.850 would imply the scale was marked to nearest hundredth.

1. a. 9.31×10^7 b. 2.99×10^{-6} c. 4.88×10^{-5}
d. 7.90×10^9 e. 4.92×10^{-7}
2. a. 9.96×10^{-1} b. 4.40×10^3 c. 8.22×10^{-1}
d. 4.00×10^{-9} e. 8.42×10^{-2}

1. a. 102.623 97.381 known to 3rd decimal
b. 236.2 171.5 to 1st decimal
c. 3.0814 3.0814 to 4th decimal
d. 4.67 13.21 known to 2nd decimal

2. a. 5.16 3.04 to 2nd decimal
b. 2423 $2.423 \times 10^3 = 2119 + 2423$
c. 0.516 5.159×10^{-1}
d. 2423 Same as b

3. a. $32 \text{ sec} \times 1 \text{ min} / 60 \text{ sec} = 53 \text{ min}$
b. $2.4 \text{ lb} \times 1 \text{ kg} / 2.205 \text{ lb} = 1.1 \text{ kg}$
c. $2.4 \text{ lb} \times 453.59 \text{ g} / 1 \text{ lb} = 1089 \text{ g} = 1.1 \times 10^3 \text{ g}$
d. $3150 \text{ ft} \times 1 \text{ mi} / 5280 \text{ ft} = 0.597 \text{ mi}$
e. $14.2 \text{ in} \times 1 \text{ ft} / 12 \text{ in} = 1.18 \text{ ft}$

- f. $22.4 \text{ g} \times 1 \text{ kg} / 1000 \text{ g} = 0.0224 \text{ kg}$
g. $9.72 \text{ mg} \times 1 \text{ g} / 1000 \text{ mg} = 0.00972 \text{ g}$
h. $2.91 \text{ m} \times 1.0936 \text{ yd} / 1 \text{ mi} = 3.18 \text{ yd}$

4. a. $2.23 \text{ m} \times 1.094 \text{ yd} / 1 \text{ m} = 2.44 \text{ yd}$
b. $46.2 \text{ yd} \times 1 \text{ m} / 1.094 \text{ yd} = 42.2 \text{ m}$
c. $292 \text{ cm} \times 1 \text{ in} / 2.54 \text{ cm} = 115 \text{ in}$
d. $881.2 \text{ in} \times 2.54 \text{ cm} / 1 \text{ in} = 2238 \text{ cm}$

e. $1043 \text{ km} \times 1 \text{ mi} / 1.6093 \text{ km} = 648.1 \text{ mi}$

f. $445.5 \text{ mi} \times 1.6093 \text{ km} / 1 \text{ mi} = 716.9 \text{ km}$

g. $36.2 \text{ m} \times 1 \text{ km} / 1000 \text{ m} = 0.0362 \text{ km}$

h. $0.0501 \text{ km} \times 1000 \text{ m} / 1 \text{ km} \times 100 \text{ cm} / 1 \text{ m} = 5.01 \times 10^4 \text{ cm}$

6

a. $5.25 \text{ oz} \times 1 \text{ lb} / 16 \text{ oz} = 0.328 \text{ lb}$

b. $125 \text{ g} \times 1 \text{ lb} / 453.59 \text{ g} = 0.276 \text{ lb}$

c. $125 \text{ g} \times 1 \text{ lb} / 453.59 \text{ g} \times 16 \text{ oz} / 1 \text{ lb} = 4.41 \text{ oz}$

d. $125 \text{ ml} \times 1 \text{ L} / 1000 \text{ mL} = 0.125 \text{ L}$

e. $125 \text{ mL} \times 1.057 \text{ qt} / 1000 \text{ mL} \times 2 \text{ pt} / 1 \text{ qt} = 0.264 \text{ pt}$

f. $2.5 \text{ mi} \times 1.6093 \text{ km} / 1 \text{ mi} = 4.0 \text{ km}$

g. $2.5 \text{ mi} \times 1.6093 \text{ km} / 1 \text{ mi} \times 1000 \text{ m} / 1 \text{ km} = 4.0 \times 10^3 \text{ m}$

h. $2.5 \text{ mi} \times 1.6093 \text{ km} / 1 \text{ mi} \times 1000 \text{ m} / 1 \text{ km} \times 100 \text{ cm} / 1 \text{ m} = 4.0 \times 10^5 \text{ cm}$