How Many Significant Digits for Each Number?

1) ~~0.00860~~ = _3_

2) ~~0.00100~~ = _3_

3) 8017 = _4_

4) 2.300×10^{-5} = _4_
   .00002300

5) 2.559×10^{4} = _4_

6) 3.0×10^{-3} = _2_
   .0030

7) ~~0.0676~~ = _3_

8) 4.39×10^{-4} = _3_

9) 0.0004 = _1_

10) 4806 = _4_

11) 2.6×10^{9} = _2_

12) 300 = _1_

13) 0.0506 = _3_

14) 1×10^{-7} = _1_

15) 58.2 = _3_

16) 9090 = _3_

17) 790 = _2_

18) 9950 = _3_

19) 0.21520 = _5_

20) 1×10^{1} = _1_

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1. 0.057 m to km

$\frac{.057m}{1} \cdot \frac{1 km}{1000 m} = 5.7 \times 10^{-5}$ $\boxed{1000 m = 1 km}$

2. 13 cm³ to mL

$\frac{13 cm^3}{1} \cdot \frac{1 mL}{1 cm^3} = \boxed{13 mL}$ $\boxed{1 cm^3 = 1 mL}$
$= 1.3 \times 10^1 mL$

3. 0.986 hours to seconds

$\frac{0.986 hr}{1} \cdot \frac{60 min}{1 hr} \cdot \frac{60 sec}{1 min} = 3549.6 sec = 3.55 \times 10^3 s$ $\boxed{1 hr = 60 m \mid 1 m = 60 sec}$

4. 3.004 L to mL

$\frac{3.004 L}{1} \cdot \frac{1000 mL}{1 L} = 3,004 mL = 3.004 \times 10^3 mL$ $\boxed{1 L = 1000 mL}$

5. 86 kg to g

$\frac{86 kg}{1} \cdot \frac{1000 g}{1 kg} = 86,000 g = 8.6 \times 10^4$ $\boxed{1 kg = 1,000 g}$

6. 24 cm³ to L

$24 cm^3 = 24 mL$ $\boxed{1 cm^3 = 1 mL \mid 1,000 mL = 1 L}$
$\frac{24 mL}{1} \cdot \frac{1 L}{1000 mL} = \frac{24 L}{1,000} = .024 L = 2.4 \times 10^{-2} L$

7. 56,000 µg to kg

$\frac{56,000 µg}{1} \cdot \frac{1 g}{1,000,000 µg} \cdot \frac{1 kg}{1000 g} = .00056 kg = 5.6 \times 10^{-5} kg$ $\boxed{1 g = 1,000,000 µg \mid 1000 g = 1 kg}$

8. 56 km to mm

$\frac{56 km}{1} \cdot \frac{1000 m}{1 km} \cdot \frac{1000 mm}{1 m} = 56,000,000 mm = 5.6 \times 10^7 mm$ $\boxed{1 km = 1000 m \mid 1 m = 1,000 mm}$

9. 20 km to feet

$\frac{20 km}{1} \cdot \frac{1000 m}{1 km} \cdot \frac{100 cm}{1 m} \cdot \frac{1 in}{2.54 cm} \times \frac{1 ft}{12 in} = 70000 = 7 \times 10^4 ft$ $\boxed{1 km = 1,000 m \quad 1 m = 100 cm \quad 2.54 cm = 1 in. \mid 12 in. = 1 ft.}$