

Answers

Science 10

More Significant Digits, Scientific Notation and Conversions Worksheet

All answers can be placed on this sheet if you like ☺

Part A: Solve the following mathematical problems so that the answers have the correct number of significant figures:

- | | |
|---|---|
| 1) $334.54 \text{ km} + 198 \text{ km} = 533 \text{ km}$ | 6) $450 \text{ meters} / 114 \text{ seconds} = 3.9 \text{ m/s}$ |
| 2) $34.1 \text{ km} / 1.1 \text{ h} = 31 \text{ km/h}$ | 7) $298.01 \text{ km} + 34.112 \text{ km} = 332.12 \text{ km}$ |
| 3) $2.11 \text{ m} / 34 \text{ s} = 0.062 \text{ m/s}$ | 8) $84 \text{ m/s} \times 31.221 \text{ s} = 2600 \text{ m}$ |
| 4) $0.0010 \text{ m} - 0.11 \text{ m} = -0.11 \text{ m}$ | 9) $22.4 \text{ m} \times 0.1 \text{ m} = 2 \text{ m}^2$ |
| 5) $349 \text{ cm} + 1.10 \text{ cm} + 100 \text{ cm} = 450 \text{ cm}$ | 10) $465 \text{ km} / 5.21 \text{ h} = 89.3 \text{ km/h}$ |

Part B: Convert the following numbers into scientific notation:

- | | |
|----------------------------------|----------------------------------|
| 1) 3,400 3.4×10^3 | 5) 45.01 4.5×10^1 |
| 2) 0.000023 2.3×10^{-5} | 6) 1,000,000 1.0×10^6 |
| 3) 101,000 1.01×10^5 | 7) 0.00671 6.71×10^{-3} |
| 4) 0.010 1.0×10^{-2} | 8) 4.50 4.50×10^0 |

Part C: Round each of the following to three Significant Digits:

- | | |
|---------------------------|----------------------------|
| 1) 5357 5340 | 6) 0.14986 0.150 |
| 2) 64.845 64.8 | 7) 0.00318756 0.00319 |
| 3) 578900 579 000 | 8) 861.85 8.62 |
| 4) 0.0031904 0.00319 | 9) 0.9025011 0.903 |
| 5) 16.8477 16.8 | 10) 5.6732 5.67 |

Part D: Convert each of the following to the units stated:

1) 30 s , convert to min

$$30 \text{ s} \times \frac{1 \text{ min}}{60 \text{ s}} = 0.5 \text{ min}$$

2) 38 km, convert to meters

$$38 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} = 38000 \text{ m}$$

3) 102km/h , convert to m/s

$$102 \text{ km/h} \times \frac{1 \text{ m/s}}{3.6 \text{ km/h}} = 28.3 \text{ m/s}$$

4) 92 min, convert to hours

$$92 \text{ min} \times \frac{1 \text{ h}}{60 \text{ min}} = 1.53 \text{ h}$$

5) 3.5 h , convert to min

$$3.5 \text{ h} \times \frac{60 \text{ min}}{1 \text{ h}} = 210 \text{ min}$$

6) 650 m, convert to km

$$650 \text{ m} \times \frac{1 \text{ km}}{1000 \text{ m}} = 0.65 \text{ km}$$

7) 0.0300 h, convert to s

$$0.0300 \text{ h} \times \frac{60 \text{ min}}{1 \text{ h}} \times \frac{60 \text{ s}}{1 \text{ min}} = 108 \text{ s}$$

8) 5 km/h , convert to m/s

$$5 \text{ km/h} \times \frac{3.6 \text{ m/s}}{1 \text{ km/h}} = 162 \text{ m/s}$$

9) 45 m/s , convert to km/h

$$45 \text{ m/s} \times \frac{3.6 \text{ km/h}}{1 \text{ m/s}} = 162 \text{ km/h}$$

10) 3600s, convert to hours

$$3600 \text{ s} \times \frac{1 \text{ min}}{60 \text{ s}} \times \frac{1 \text{ h}}{60 \text{ min}}$$