

Answers pg 349 #3,4,6,9

- 3a) 7.65 3SD
- b) 20.2m/s 3 SD
- c) 50.0cm 3SD
- d) 0.084 2SD

- 4a) 32.74km  
32.7km
- b) 0.003922g  
0.00392g
- c) 107.51s  
108s

6. a)  $22.4h \times \frac{0.1mm}{h} = 2.24mm = 2mm$   
1 is the fewest S.F.

b)  $\frac{465km}{5.21h} = 89.2km/h$  3 is the fewest S.F.

c)  $18cm^3 \times \frac{1.10g}{cm^3} = 19.8g = 20g$  2 is the fewest S.F.

d)  $72.5min \times \frac{1h}{60min} = 1.21h$  3 SD is the fewest conversion factors do not count towards SD

e)  $17.5mL + 9.5mL + 8.25mL$   
 $120.75$  fewest decimals is none  
 $121mL$

f)  $32.1m + 960m + 20.02m$   
 $1012.12m$  fewest decimals is none  
 $1012m$

g)  $0.2cm + 23.91cm + 0.62cm$   
 $24.73cm$  1 is the fewest decimal  
 $24.7cm$

h)  $13.63h - 0.5h$   
 $13.13h$  1 is the fewest decimal  
 $13.1h$

i)  $35.1mm + 67.04mm$   
 $102.14mm$  1 is the fewest decimal  
 $102.1mm$

j)  $7.52s + 8.678s + 0.24s$   
 $16.438s$  2 is the fewest decimal  
 $16.44s$

8. a) area = base x height  
area =  $100.0m \times 12m$   
area (calculator answer) =  $1200m^2$   
area (correct SD) =  $1200m^2$

b) area = base x height  
area =  $8.23cm \times 0.68cm$   
area (calculator answer) =  $5.5964cm^2$   
area (correct SD) =  $5.6cm^2$

$$9. a) 34 \text{ min} \times \frac{1 \text{ hr}}{60 \text{ min}} = 0.57 \text{ h}$$

$$b) 0.510 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} = 510 \text{ m}$$

$$c) 0.021 \text{ h} \times \frac{60 \text{ min}}{1 \text{ h}} \times \frac{60 \text{ sec}}{1 \text{ min}} = 76 \text{ sec}$$

$$d) 25 \frac{\text{km}}{\text{h}} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{1 \text{ hr}}{60 \text{ min}} \times \frac{1 \text{ min}}{60 \text{ sec}} = 6.9 \frac{\text{m}}{\text{s}}$$

$$\text{or } 25 \text{ km/h} \times \frac{1 \text{ km/h}}{3.6 \text{ m/s}} = 6.94$$

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 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    |