

Warm-up:

Determine the # of S.F.'s

- | | |
|--------------------------------|------------------------------------|
| 1. 800g 4 SF's | 9. 0.00080 miles 2 SF's |
| 2. 0.0400m 3 SF's | 10. 1,000,000m 1 SF |
| 3. 120 mL 2 SF's | 11. $2.1 \cdot 10^8 m^3$ 2 SF |
| 4. 4.0001 kg 5 SF's | 12. 0.0352 mL 3 SF |
| 5. 14,000s 2 SF's | 13. 40 g 1 SF |
| 6. 55.6 cg 3 SF's | 14. 100,450s 5 SF's |
| 7. $1.04 \cdot 10^3$ kg 3 SF's | 15. $8 \cdot 10^{-3}$ L 1 SF |
| 8. 120,800 mm 6 SF's | 16. 502.083 cm ³ 6 SF's |

Warm-up: $\times / \div =$ Lowest SF's $+ / - =$ Lowest decimals
3 decimals

1. $(2.1 \times 10^6) \times (5.8 \times 10^{-3}) = 2 \text{ SF's}$ 2. $3.085 + 6.07246 =$

$1.2 \cdot 10^4$ or 12,000

9.157

3. $(8.924 \times 10^{-2}) - (6.7 \times 10^{-3}) = 1$
decimal

4. $\frac{(7.24 \times 10^7)}{(5.137 \times 10^5)} = 3 \text{ SF's}$

$8.3 \cdot 10^{-2}$ or 0.1

$1.4 \cdot 10^2$ or 141

• Dimensional Analysis: used to convert units

↳ Conversion Factor: ratio of equivalent #'s with different units

1. Convert 100.0 yds → Meters 3ft = 1yd
1m = 3.28ft

$\frac{100.0 \text{ yds}}{1 \text{ yd}} \cdot \frac{1 \text{ m}}{3.28 \text{ ft}} = 91.46 \text{ meters}$

2. $\frac{65 \text{ mi}}{\text{hr}} = \frac{? \text{ m}}{\text{s}}$ 1.61 km = 1.00 mi
1,000m = 1 km
60 min = 1 hr
60 s = 1 min

$\frac{65 \text{ mi}}{\text{hour}} \cdot \frac{1.61 \text{ km}}{1 \text{ mi}} \cdot \frac{1000 \text{ m}}{1 \text{ km}} \cdot \frac{1 \text{ hr}}{60 \text{ min}} \cdot \frac{1 \text{ min}}{60 \text{ s}} = 29 \frac{\text{m}}{\text{s}}$