Worksheet 1.6 Significant Figure Calculations

Perform the following calculations and report each answer to the correct number of significant figures:

Addition and Subtraction Problems	Calculator Answer	Rounded to the correct number of significant figures
1. 162.1 g + 38.73 g + 1.554 g		
2. 21.9 m + 6.34 m + 157 m		
3. 0.004 dm + 0.12508 dm		
4. 0.025 mol + 0.0267 mol + 0.00287 mol		
5. 9.88 s - 7.2 s		
6. 44.7 kg - 2.7 kg		
7. 20 L - 20.0 L		
8. 3.00 g - 2.89 g		
9. 9.23 mL - 8.8943 mL		

Multiplication and Division Problems	Calculator Answer	Rounded to the correct number of significant figures; don't forget the units
10. 6.5 cm x 2.1 cm		
11. 2.33 m x 5.15 m		
12. 12.65m x 42.1 m		
13. 3.02 cm x 6.3 cm x 8.225 cm		
14. 40.1 kg x 0.2453 m^2		
15. 340m / 0.1257 s		
16. 1.29 g / 29.20 cm^3		
17. 3.244 m / 1.4 s		
18. 62 g / 1.62 cm^3		
19. 45.4 g / (0.012 cm x 0.444 cm x 0.221 cm)		
20. $(3 \times 10^5 \text{ m}) (2 \times 10^7 \text{m})$		
21. $(4.2 \times 10^7 \text{kg})(3.09 \times 10^{-2} \text{m})$		
22. $(5.21 \times 10^{-5} \text{nm})/(3.623 \times 10^4 \text{ s})$		
23. $(2.05 \times 10^{-2} \text{ mol})/ (2.03 \times 10^{-1} \text{L})$		

1. List the dimensions for the following measurements:

Measurement	Dimension (length, mass, time, temperature, etc): Note that some may have multiple dimensions-for those list all dimensions)
24	55m	
25	4.3×10^{-2} sec	
26	43.2 mol	
27	0.0021 μm	
28	2.0 L	
29	32.0 gal	
30	161 lb	
31	1 light year	
32	43 Kelvin	
33	6000 lumens	
34	12.5 m^2	
35	16 miles per hour	
36	0.0032 kg m/sec^2	
37	235 g/mol	

2. Convert the following temperatures:

Measurement	Dimension (length, mass, time, temperature, etc): Note that some may have multiple dimensions-for those list all dimensions)
38	24°C into Kelvin	
39	0°C into Kelvin	
40	-273°C into Kelvin	
41	300 K into °C	
42	0 K into °C	
43	373 K into °C	