Practice for Physics Aug. 19 - ANSWERS

Scientific Notation/ Significant Figures/ Conversions

Significant Figures –

1. 9.0004 - 5
2. 0.0004 - 1
3. 1.020 – 4 (the right most 0 is also sig, because it is to the right of the #)
4. 5,000 – 1 (0's only sig if has a decimal)
5. 3.6 - 2
6. 80,600.0 – 5 or 6
7. 450,200 – 4
8. 87,450.00 –

Math and Sig Figs -
1. For multiplication and division round to the lowest number of sig. figs.
2. For addition and subtraction round to the lowest number of decimals.

Calculator answer:	*With correct sig figs.*	*Rule 1 or 2*
20,328	1) 8.4 x 2,420 = 20,000 (no ambiguity: 2.0 x 10^4)	1 (2 sig figs)
3.02	2) 6.02 – 3 = 3 2 (no decimals)	
3,028,953.229...	3) 6,800,000 ÷ 2.245 = 3,000,000 (or 3.0 x 10^6)	1 (2 sig figs)
10,507.32	4) 10,500.12 + 7.2 = 10,507.3	2 (1 decimal)
50.402	5) 54.602 – 4.2 = 50.4	2 (1 decimal)
33,513.4	6) 10,004 x 3.35 = 33,500	1 (3 sig figs)
0.324	7) 3.24 ÷ 10 = 0.3	1 (1 sig fig)
9,934.108	8) 9,900.108 + 34.00 = 9,934.11	2 (2 decimals)

Equivalents:
4.5 brats = 2 knuts
1 knut = 14 jyties
2.2 jyties = 1 moolins

Convert 10 brats to jyties.

$$\frac{10\ \cancel{\text{brats}}}{1}\left(\frac{2\ \cancel{\text{knuts}}}{4.5\ \cancel{\text{brats}}}\right)\left(\frac{14\ \text{jyties}}{1\ \cancel{\text{knut}}}\right)=\left(\frac{(10)(2)(14)\text{jyties}}{4.5}\right)=\frac{280\ \text{jyties}}{4.5}=62.2\ \text{jyties}$$

Convert 6.5 moolins to brats

$$\frac{6.5\ \cancel{\text{moolins}}}{1}\left(\frac{2.2\ \cancel{\text{jyties}}}{1\ \cancel{\text{moolins}}}\right)\left(\frac{1\ \cancel{\text{knuts}}}{14\ \cancel{\text{jyties}}}\right)\left(\frac{4.5\ \text{brats}}{2\ \cancel{\text{knuts}}}\right)=\frac{(6.5)(2.2)(4.5)\text{brats}}{(14)(2)}=2.3\ \text{brats}$$