

Scientific Notation/ Significant Figures/ Conversions Practice (KEY)

Significant Figures –

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

Math and Sig Figs -

- For multiplication and division round to the lowest number of sig. figs.
- For addition and subtraction round to the lowest number of decimals.

<i>Calculator answer:</i>	<i>With correct sig figs.</i>	<i>Rule 1 or 2</i>
20,328	1) $8.4 \times 2,420 = 20,000$ (no ambiguity: 2.0×10^4)	1 (2 sig figs)
3.02	2) $6.02 - 3 = 3$ 2 (no decimals)	
3,028,953.229...	3) $6,800,000 \div 2.245 = 3,000,000$ (or 3.0×10^6)	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) $10,004 \times 3.35 = 33,500$	1 (3 sig figs)
0.324	7) $3.24 \div 10 = 0.3$	1 (1 sig fig)
9,934.108	8) $9,900.108 + 34.00 = 9,934.11$	2 (2 decimals)

Equivalents:

$4.5 \text{ brats} = 2 \text{ knuts}$

$1 \text{ knut} = 14 \text{ jyties}$

$2.2 \text{ jyties} = 1 \text{ moolins}$

Convert 10 brats to jyties.

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

Convert 6.5 moolins to brats

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