

## Estimating Calculations

Question	Values Rounded to 1 sf			Calculation	Estimated Answer	Overestimate or Underestimate?	Actual Answer
$3.3 \times 2194 \times 1.2$	3.3	2194	1.2	$3 \times 2000 \times 1$	6000	Underestimate	8688.24
	3	2000	1				
$\begin{array}{r} 17.8 + 67.3 \\ \hline 12.29 \end{array}$	17.8	67.3	12.29	$\begin{array}{r} 20 + 70 \\ \hline 10 \end{array}$	9	Overestimate	6.92
	20	70	10				
$\begin{array}{r} 47 \times 78.6 \\ \hline 0.53 \end{array}$	47	78.6	0.53	$\begin{array}{r} 50 \times 80 \\ \hline 0.5 \end{array}$	8000	Overestimate	6970.19
	50	80	0.5				
$\begin{array}{r} 1.78^3 \\ \hline 62.1 + 43.3 \end{array}$	1.78	62.1	43.3	$\begin{array}{r} 2^3 \\ \hline 60 + 40 \end{array}$	0.08	Overestimate	0.0535
	2	60	40				
$\begin{array}{r} \sqrt{103} \\ \hline 0.98 \times 19 \end{array}$	103	0.98	19	$\begin{array}{r} \sqrt{100} \\ \hline 1 \times 20 \end{array}$	0.5	Underestimate	0.545
	100	1	20				
$\begin{array}{r} 5.34 + 3.296 \\ \hline 0.195 \end{array}$	5.34	3.296	0.195	$\begin{array}{r} 5 + 3 \\ \hline 0.2 \end{array}$	40	Underestimate	44.29
	5	3	0.2				
$\begin{array}{r} (4.12 \times 0.53)^2 \\ \hline \sqrt[3]{7.97} \end{array}$	4.12	0.53	7.97	$\begin{array}{r} (4 \times 0.5)^2 \\ \hline \sqrt[3]{8} \end{array}$	2	Underestimate	2.38
	4	0.5	8				