Answers and mark guide

Q	Answer	Working	Marks
1	**9.8×10^5**	Move the decimal point to get a number between 1 and 10; the power is 5.	2
2	**6.5×10^{-5}**	Move the decimal point to get a number between 1 and 10; the power is −5.	2
3	**6.2×10^{-3}**	Move the decimal point to get a number between 1 and 10; the power is −3.	2
4	**1.9×10^3**	Move the decimal point to get a number between 1 and 10; the power is 3.	2
5	**8.9×10^3**	Move the decimal point to get a number between 1 and 10; the power is 3.	2
6	**0.000019**	Move the decimal point.	2
7	**61000000**	Move the decimal point.	2
8	**8800000**	Move the decimal point.	2
9	**4.2×10^4**	Rewrite with one digit before the decimal point.	2
10	**2×10^8**	Rewrite with one digit before the decimal point.	2
11	**6.2×10^8**	2×3.1 = 6.2; powers add: 10^8; then standardise.	3
12	**1.3×10^7**	5.33 ÷ 4.1 = 1.3; powers subtract: 10^7	3
13	**4.92×10^6**	4.1×1.2 = 4.92; powers add: 10^6; then standardise.	3
14	**4.5×10^4**	19.80 ÷ 4.4 = 4.5; powers subtract: 10^4	3
15	**1.215×10^{10}**	4.5×2.7 = 12.15; powers add: 10^9; then standardise.	3
16	**1.61×10^6**	Write both as ordinary numbers (or the same power of 10) before adding.	4
17	**8.78×10^6**	Convert to ordinary numbers, subtract, then standardise.	4
18	**7×10^2**	Time = distance ÷ speed = $2.1 \times 10^{11} \div 3 \times 10^8 = 700$ s	4
19	**1000**	10^9 ÷ 10^6 = 10^3 = 1000	4
20	**2.22×10^2**	5.1 ÷ 2.3 = 2.2174...; 10^7 ÷ 10^5 = 10^2	5

My score: _____ / 56 Questions 1–15 = 35 marks (Foundation focus)