Simultaneous equations

1.   Write the following numbers in standard form.

   a) 50000

   b) 432000000

   c) 3267800

   d) 0.00007

   e) 0.000345

   f) 0.000021345

                                                      (6 marks)

2.   Write 2346800000000 in standard form.

                                                      (1 mark)

3.   Write 0.00000000768 in standard form.

                                                      (1 mark)

4.   Write 5 billion in standard form.

                                                      (2 marks)

Simultaneous equations

5.   Write the following as ordinary numbers.

   a) 2×10^4

   b) 3.12×10^6

   c) 7.008×10^7

   d) 5×10^{-2}

   e) 6.3×10^{-4}

   f) 7.012×10^{-5}

(6 marks)

6.   Write 1.145×10^8 as an ordinary number.

(1 mark)

7.   Write 9.99×10^{-6} as a ordinary number.

(1 mark)

8.   Write 6.67876×10^9 as a ordinary number.

(1 mark)

Simultaneous equations

9.   Calculate $(7 \times 10^4) \times (4 \times 10^5)$
                Give your answer in standard form.

(2 marks)

10.   Work out $(2.42 \times 10^6) \times (3.82 \times 10^7)$
                Give your answer in standard form.

(3 marks)

11.   Work out $(1.25 \times 10^{-3}) \times (5.4 \times 10^{-4})$
                Give your answer in standard form.

(3 marks)

Simultaneous equations

12.   Work out $(2 \times 10^9) \div (4 \times 10^3)$
        Give your answer in standard form.

                           (3 marks)

13.   Work out $(5.5 \times 10^8) \div (1.1 \times 10^2)$
        Give your answer in standard form.

                           (3 marks)

14.   Work out $(5.65 \times 10^5)^2$
        Give your answer in standard form.

                           (3 marks)

Simultaneous equations

15. This table gives the distance from Newcastle to different cities in metres.

City	Distance (metres)
Edinburgh	1.48×10^5
Wales	3.47×10^5
London	3.98×10^5
Belfast	2.81×10^5
Philadelphia	5.51×10^6
Amsterdam	5.18×10^5

a) What city has the furthest distance from Newcastle?

(1 mark)

b) What city has the shortest distance from Newcastle?

(1 mark)

c) What is the difference between the furthest distance and the shortest distance from Newcastle?
Give your answer in standard form.

(2 marks)

d) Given that 1mile is approximately 1.6 km
What is the distance to London in miles?

(2 marks)

Simultaneous equations

16. The circumference of the Earth is 4.0075×10^7 metres.
    Find the diameter of the Earth.
    Give your answer in standard form.

    (3 marks)

17. a, b and c are numbers wrote in standard form.

$a = 4.2 \times 10^4$	$b = 6.1 \times 10^5$	$c = 5.8 \times 10^6$

    Calculate, giving your answer in standard form.

    a) a + b

    b) c – a

    c) ab

    d) c ÷ a

    (6 marks)