

- 1 (a) Write 6.9×10^{-3} as an ordinary number.

(a) [1]

- (b) The table shows the population and area of each of the countries in the United Kingdom in 2012.

	England	Scotland	Wales	Northern Ireland
Population	5.4×10^7	5.3×10^6	3.1×10^6	1.8×10^6
Area (km ²)	1.3×10^5	7.8×10^4	2.1×10^4	1.4×10^4

- (i) Use the table to work out the total population of the United Kingdom in 2012. Give your answer in standard form.

(b)(i) [2]

- (ii) Which of the four countries has the smallest population density?
You must show all your working to justify your answer.

[4]

- 2 (a) Write this ordinary number in standard form.

725 000

(a) [1]

- (b) Which of these numbers is bigger?
Explain how you know.

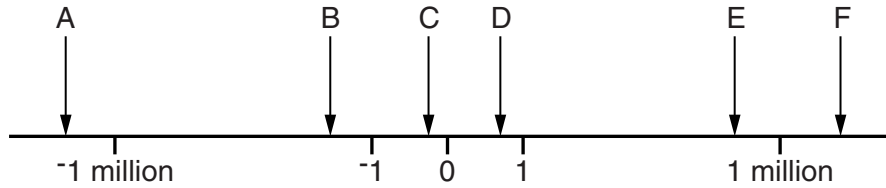
3.6×10^{-4}

3.6×10^{-5}

..... is bigger because

..... [2]

3 This number line is **not** to scale.



The arrows show roughly the position of some standard form numbers.

Which arrow represents

(a) 8×10^5 ,

(a) Arrow _____ [1]

(b) 7×10^{-6} ,

(b) Arrow _____ [1]

(c) 3×10^{-2} ?

(c) Arrow _____ [1]

4 Use your calculator to work these out.

(a) $4\frac{2}{3} - 1\frac{3}{4}$

Give your answer as a mixed number.

(a) _____ [1]

(b) 8^{-2}

Give your answer as a decimal.

(b) _____ [1]

(c) $(\sqrt{5})^6$

(c) _____ [1]

(d) $(9.1 \times 10^4) \times (3.8 \times 10^3)$

Give your answer in standard form.

(d) _____ [2]

- 5 (a) When 7.2×10^{-10} is written as an ordinary number, how many zeros are there **after** the decimal point?

(a) [1]

- (b) Work out.

$$(1.6 \times 10^4)^2$$

Write your answer in standard form.

(b) [2]