

WJEC MATHEMATICS

HIGHER
3 TIER TOPICS

STANDARD FORM

@MrGoreMaths.

Spec 1 – Maths – P1

7. Find, in standard form, the value of

(a) $(4.1 \times 10^{-5}) \times 3000,$ [2]

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(b) $(1.5 \times 10^3) \div (3 \times 10^6).$ [2]

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Spec 2 – Maths – P1

6. Find, in standard form, the value of

(a) $\frac{2.7 \times 10^{10}}{6000},$ [2]

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(b) $(4.5 \times 10^{-2}) \times (3 \times 10^{-3}).$ [2]

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Nov 2016 – Maths – P1

5. Find, in standard form, the value of each of the following.

(a) $\frac{7.5 \times 10^6}{5000}$ [2]

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(b) $(2.3 \times 10^3) + (6.4 \times 10^4)$ [2]

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June 2017 – Maths – P1

9. Calculate the value of $(5.41 \times 10^5) + (2.3 \times 10^4)$.
Give your answer in standard form. [2]

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Spec 1 – Numeracy – P1

- (b) Most motorways in the UK are free to use.
The cost of building motorways has increased.
A toll motorway means that drivers have to pay to drive their vehicle on it.
The toll payments help recover the building costs.

| Built between | Motorway | Approximate length | Approximate total build cost |
|---------------|----------|--------------------|------------------------------|
| 1960 and 1976 | M62 | 100 miles | $£7.7 \times 10^8$ |
| 1975 and 1985 | M25 | 120 miles | $£9.2 \times 10^8$ |
| 2000 and 2003 | M6 toll | 30 miles | $£9.0 \times 10^8$ |

Use the information in the table above to answer the following questions.

- (i) Was there an increase in the cost of building **one mile** of motorway between the time when the M62 was built and the time when the M25 was built?

You must show all your working to justify your answer. [4]

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June 2017 – Numeracy – P1

7. (a) A standard piece of A4 paper is usually 0.08 mm thick.
What is 0.08 mm written in **metres** in standard form?
Circle your answer. [1]

8×10^4 8×10^{-4} 8×10^{-3} 8×10^3 8×10^{-5}

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- (b) A piece of card is 1 mm thick.
A stack of these pieces of card is 3×10^{-2} metres high.
(i) Calculate how many pieces of card there are in the stack. [2]

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- (ii) What assumption have you made in answering (b)(i)? [1]

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- (c) In 2012 it was recorded that
- the total mass of the paper used for printing newspapers, in the world, was 2.88×10^7 tonnes,
 - the world population was approximately 7.2×10^9 people.

Use this information to calculate the mass of paper per person used to print newspapers in 2012.

Give your answer in **kg per person**.

[4]

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