Standard Form

Year 10–11 Maths · Years 10–11 · NCEA Level 1 · About 25 minutes · 8 questions

Name _____ Date _____ Score / 8

WHAT YOU WILL PRACTISE

- Write large and small numbers in standard form
- Convert numbers in standard form back to ordinary numbers
- Multiply and divide numbers in standard form

WORKED EXAMPLE

Work out $(6 \times 10^3) \times (4 \times 10^4)$. Give your answer in standard form.

1. Multiply the front numbers: $6 \times 4 = 24$.
2. Add the powers of ten: $10^3 \times 10^4 = 10^7$.
3. This gives 24×10^7, which is not yet in standard form because 24 is not less than 10.
4. Rewrite 24 as 2.4×10, so the answer is 2.4×10^8.

Answer: 2.4×10^8

Questions

Show your working in the space under each question.

1. Write 45,000 in standard form

2. Write 0.0032 in standard form

3. Write 6.1×10^5 as an ordinary number

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4. Write 7.4×10^{-4} as an ordinary number

5. Work out $(3 \times 10^{4}) \times (2 \times 10^{5})$. Give your answer in standard form.

6. Work out $(8 \times 10^{7}) \div (2 \times 10^{3})$. Give your answer in standard form.

7. Work out $(4 \times 10^{5}) \times (5 \times 10^{3})$. Give your answer in standard form.

8. The distance from the Earth to the Sun is about 1.5×10^{8} km. Light travels at about 3×10^{5} km per second. How many seconds does light take to travel from the Sun to the Earth?

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Answers: Standard Form

Mark your own work, then go back to any question you got wrong before reading the tutor tip.

Q	QUESTION	ANSWER
1	Write 45,000 in standard form	**4.5×10^4**
2	Write 0.0032 in standard form	**3.2×10^{-3}**
3	Write 6.1×10^5 as an ordinary number	**610,000**
4	Write 7.4×10^{-4} as an ordinary number	**0.00074**
5	Work out $(3 \times 10^4) \times (2 \times 10^5)$. Give your answer in standard form.	**6×10^9**
6	Work out $(8 \times 10^7) \div (2 \times 10^3)$. Give your answer in standard form.	**4×10^4**
7	Work out $(4 \times 10^5) \times (5 \times 10^3)$. Give your answer in standard form.	**2×10^9**
8	The distance from the Earth to the Sun is about 1.5×10^8 km. Light travels at about 3×10^5 km per second. How many seconds does light take to travel from the Sun to the Earth?	**500 seconds**

TUTOR TIP

The front number must be at least 1 and less than 10. If you reach 20×10^8, adjust it to 2×10^9.

Stuck on a question? Work through it live with a tutor.

YFCampus offers one-to-one online Maths tutoring matched to your school curriculum. Book a free trial class at **www.yfcampus.com/nz**

Written for students aged 13 to 16 and suitable for Years 10–11. Check your school's curriculum for the exact order of topics. YFCampus is independent and is not affiliated with any exam board or education ministry.