Negative Exponents & Scientific Notation (Grade 9)

MEMORANDUM

Name: _____ Class: _____

Date: _____

MARK ____ / 12

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

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1 Write 3^{-2} as a fraction. **(1)**

$\frac{1}{3^2} = \frac{1}{9}$ ✓ (1)

2 Write 2^{-4} as a fraction. **(1)**

$\frac{1}{16}$ ✓ (1)

3 Write $\frac{1}{x^5}$ using a negative exponent. **(1)**

x^{-5} ✓ (1)

4 Simplify: $y^3 \div y^7$ (positive exponents only). **(2)**

$y^{-4} = \frac{1}{y^4}$ ✓✓ (2)

5 Calculate: 10^{-3} **(1)**

$\frac{1}{1\,000} = 0{,}001$ ✓ (1)

6 Write $62\,000\,000$ in scientific notation. **(2)**

$6{,}2 \times 10^7$ ✓✓ (2)

7 Write $0{,}0045$ in scientific notation. **(2)**

$4{,}5 \times 10^{-3}$ ✓✓ (2)

8 Write $3{,}1 \times 10^{-2}$ as an ordinary number. **(1)**

$0{,}031$ ✓ (1)

9 Write $8{,}04 \times 10^5$ as an ordinary number. (1)

804 000 ✓ (1)

TOTAL: 12 marks

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