ASPIRE TO POWER LEARNING

Year 9 | Algebra

Integer exponent laws

Learn and practise | Free preview

A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Read the explanation and worked example. Show your working; use a calculator only where asked.

What you will practise

- Apply exponent laws to numbers and variables, including negative exponents.
- Explain a method and check the reasonableness of a result.

Useful starting skills: Use the prerequisite operations and representations shown in the worked example.

For non-zero bases, multiplication adds exponents and division subtracts them. A negative exponent means a reciprocal: $a^{(-n)}=1/a^{n}$.

Apply a power to every factor of a product. State non-zero restrictions whenever denominators or negative exponents appear.

Worked example

Simplify $(3x^{2})^{2}/x^{3}$, $x\neq0$.

Numerator$=9x^{4}$.

Subtract exponents 4-3.

Answer: 9x

Try it yourself

Name: _____ Date: _____

1. Evaluate $2^{(-3)}$.

2. Simplify $x^4 \times x^5$.

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. 1/8

Negative exponent gives reciprocal.

2. x^9

Add exponents.

Curriculum reference: VC2M9A01

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