Year 8 Mathematics Learning Journey: Unit 11 - Indices

Step 1: Add and subtract expressions with indices

Simplify $5x^3 + 6x^2 – 4x^2 - 2x^3$

Step 2: Multiply expressions with indices

Expand and simplify
6a x 3b x 2a + 5ab(3b – 2a)

Step 3: Divide expressions with indices

$30a^2b \div 5ab^2$

Step 4: The addition law for indices

What is the difference between a ‘base’ and an ‘index’?

Step 4: The addition law for indices

Work out the missing value

$a^{\square} \times a^3 = a^9$

Step 5: Addition and subtraction laws for indices

Work out the missing value

$b^8 \div b^4 \times b^{\square} \equiv b^4$

Step 6 (H): Exploring powers of powers

Dani thinks $(2x^4)^3 \equiv 6x^{12}$. What mistake has Dani made?

Step 7 (H): Understand negative indices

Will a number raised to a negative power always, sometimes or never have a negative value?

Step 8 (H): Understand fractional indices

Put the following cards in descending order of size.

$64^{\frac{1}{2}}$ $100^{\frac{1}{2}}$ 10^{-3} 10^{0}

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