

2.1.2 Algebra Language

Name: _____ Class: _____ Date: _____

KEY WORDS coefficient

<!-- Session 2 native-skill companion -->

Objective

Practise algebra language within the labelled native lessons. Public original tasks; locally authored answer guidance.

1 Key knowledge and worked examples

■ Algebraic notation, substitution and vocabulary · Foundation

A term is a part joined by addition or subtraction. In $4+3d$, 4 is a constant and 3 is the coefficient of d . The expression has no equality sign; $4+3d=19$ is an equation. A formula connects named quantities. In ab , multiplication is understood; a^2b means $a \times a \times b$, not $a \times b \times b$.

$$a^2b = (-2)^2 \times 3 = 12$$

For $d=5$, the charge is $4+3 \times 5=19$ yuan. For $a=-2, b=3$, $a^2b=(-2)^2 \times 3=12$. The fraction coefficient in $(3/4)x$ gives 6 when $x=8$. An inequality $4+3d \leq 19$ describes all permitted distances, while an identity such as $2(x+3)=2x+6$ is true for every x .

Put a negative substituted number in brackets before squaring. A coefficient is not an exponent. An expression can be evaluated but cannot be solved unless a condition or equation is supplied.

AQA A1–A3 require precise notation and vocabulary, including formulae from other subjects. Identify the inputs and units before substitution; keep fraction coefficients exact.

Constant + variable charge

4

+

$3 \times d$

Original native-lesson illustration; labels belong to its worked example.

2 Practice

2.1 (Foundation) Find $4+3d$ when $d=5$.

2.2 (Foundation) Find a^2b for $a=-2, b=3$.

2.3 (Foundation) Find $(3/4)x$ for $x=8$.

3 Exam-style questions

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: In the expression $3x^2$, the coefficient of x^2 is 2.

Solutions

2.1 Substitute: $4+15=19$.

2.2 Square -2 in brackets to get 4; multiply by 3.

2.3 $8/4 \times 3=6$.

3.1 False. The coefficient multiplying x^2 is 3; the exponent is 2. At $x=2$ the term is $3 \times 4=12$.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.