

Simplifying simple expressions

CURRICULUM ALIGNMENT

ALG.EXP.4

articulate, represent and solve mathematical situations through the use of expressions and equations that include letter-symbols.

INTERACTIVES Drag Sort · challenge, display

WHAT THIS LESSON TEACHES

Like terms are terms with the same letter or all plain numbers and can be added or subtracted to simplify.

→ $3x$ and $5x$ are like terms so $3x + 5x$ becomes $8x$.

→ $4x + 3 + 2x$ tidies to $6x + 3$.

MODEL THIS ON THE BOARD

TIDYING AN EXPRESSION

- 1 Underline all x-terms in one colour and plain numbers in another.
- 2 Add the x coefficients: $4 + 2$ makes 6 so the x part is $6x$.
- 3 Keep the plain number as $+3$.
- 4 The simplified expression is $6x + 3$.

ANSWER KEY

a) $9x + 6$

b) $8x + 13$

c) $12x + 11$

Q1: $8x$

Q2: $21x + 12$

Q3: $9x + 9$

Q4: $30x + 15$

Q5: $13x + 5$

a) **Always** : Both have the letter x so they combine to $7x$.

b) **Always** : They are both plain numbers so they add to 7.

c) **Never** : The plain 3 cannot join the x term, so it stays $4x + 3$.

d) **Sometimes** : True if no plain numbers are present but false if plain numbers appear.

EXTENSION SHEET · STRETCH ANSWERS

S1: commutative property

S2: associative property