



UNDERSTANDING ALGEBRA

COLLECTING LIKE TERMS: COMBINED VARIABLES

Ref: G213. **3F1**

A1 Simplify: $a^2 + a^2 + a^2$	A2 Simplify: $a^2 + a^2 + a^2 + a^2 + a^2$	A3 Simplify: $4a^2 + 2a^2$	A4 Simplify: $2a^2 + 7a^2 - 3a^2$
B1 Simplify: $5a^2 + 8a + 3a^2 + 4a$	B2 Simplify: $6a^2 + 2a - 4a^2 + 5a$	B3 Simplify: $5a^2 + 8a - 3a - 3a^2$	B4 Simplify: $3a + 5a^2 + 4a - 3a^2$
C1 Simplify: $ab + ab + ab$	C2 Simplify: $ab + ba + ab + ba$	C3 Simplify: $2ab + 3ab + ba$	C4 Simplify: $5ab + 4ba + 2ab$
D1 Simplify: $8ab + 6a - 5ab - a$	D2 Simplify: $7ab + 5a - 4ba - 3a$	D3 Simplify: $4a + 3ab - 3a - ab$	D4 Simplify: $6ab + a - 2ab + a$
E1 Simplify: $4a^2 + 3ab - ab + 5a^2$	E2 Simplify: $9a^2 + ab - 3a^2 + ab$	E3 Simplify: $3a^2 + 4a + ab - a^2$	E4 Simplify: $5ab + 2a - 3ab + b$



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A1 Simplify: $\underline{a^2 + a^2 + a^2}$ $3a^2$	A2 Simplify: $\underline{a^2 + a^2 + a^2 + a^2 + a^2}$ $5a^2$	A3 Simplify: $\underline{4a^2 + 2a^2}$ $6a^2$	A4 Simplify: $\underline{2a^2 + 7a^2 - 3a^2}$ $6a^2$
B1 Simplify: $\underline{5a^2 + 8a + 3a^2 + 4a}$ $8a^2 + 12a$	B2 Simplify: $\underline{6a^2 + 2a - 4a^2 + 5a}$ $2a^2 + 7a$	B3 Simplify: $\underline{5a^2 + 8a - 3a - 3a^2}$ $2a^2 + 5a$	B4 Simplify: $\underline{3a + 5a^2 + 4a - 3a^2}$ $2a^2 + 7a$
C1 Simplify: $\underline{ab + ab + ab}$ $3ab$	C2 Simplify: $\underline{ab + ab + ab + ab}$ $4ab$	C3 Simplify: $\underline{2ab + 3ab + ab}$ $6ab$	C4 Simplify: $\underline{5ab + 4ab + 2ab}$ $11ab$
D1 Simplify: $\underline{8ab + 6a - 5ab - a}$ $3ab + 5a$	D2 Simplify: $\underline{7ab + 5a - 4ab - 3a}$ $3ab + 2a$	D3 Simplify: $\underline{4a + 3ab - 3a - ab}$ $a + 2ab$	D4 Simplify: $\underline{6ab + a - 2ab + a}$ $4ab + 2a$
E1 Simplify: $\underline{4a^2 + 3ab - ab + 5a^2}$ $9a^2 + 2ab$	E2 Simplify: $\underline{9a^2 + ab - 3a^2 + ab}$ $6a^2 + 2ab$	E3 Simplify: $\underline{3a^2 + 4a + ab - a^2}$ $2a^2 + 4a + ab$	E4 Simplify: $\underline{5ab + 2a - 3ab + b}$ $2ab + 2a + b$