



Air maths tuition

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## Surds - Addition and Subtraction

$$5\sqrt{3} + 2\sqrt{3} - \sqrt{3} = 6\sqrt{3}$$

$$13\sqrt{3} - 2\sqrt{5} - 5\sqrt{3} - \sqrt{5} = 8\sqrt{3} - 3\sqrt{5}$$

Simplify

$$\begin{aligned}2\sqrt{48} + 3\sqrt{32} &= 2\sqrt{4 \times 2} + 3\sqrt{16 \times 2} \\ &= 2\sqrt{4}\sqrt{2} + 3\sqrt{16}\sqrt{2} \\ &= 2(2)\sqrt{2} + 3(4)\sqrt{2} \\ &= 4\sqrt{2} + 12\sqrt{2} \\ &= 16\sqrt{2}\end{aligned}$$

$$\begin{aligned}5\sqrt{27} - 2\sqrt{12} &= 5\sqrt{9 \times 3} - 2\sqrt{4 \times 3} \\ &= 5\sqrt{9}\sqrt{3} - 2\sqrt{4}\sqrt{3} \\ &= 5(3)\sqrt{3} - 2(2)\sqrt{3} \\ &= 15\sqrt{3} - 4\sqrt{3} \\ &= 11\sqrt{3}\end{aligned}$$

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