Surds

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1) Surds: Easier
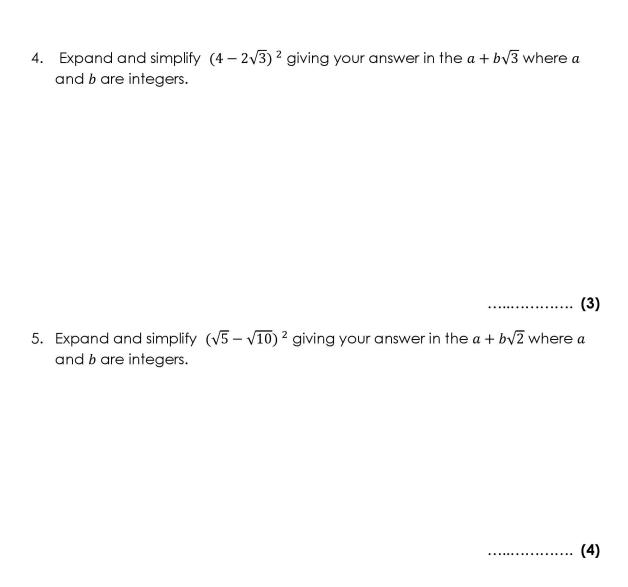
1. a) Simplify $\sqrt{75}$

    …..………… **(1)**

    b) Express $\sqrt{75} - \sqrt{48}$ in the form $a\sqrt{3}$ where a is an integer.

    …..………… **(2)**

2. Express $\frac{15}{\sqrt{5}}$ in the form $a\sqrt{b}$ where a and b are positive integers.

    …..………… **(2)**

3. Expand and simplify $(2 + \sqrt{3})(4 + \sqrt{3})$ giving your answer in the $a + b\sqrt{3}$ where a and b are integers.

    …..………… **(3)**

1) Surds: Medium

4. Expand and simplify $(4 - 2\sqrt{3})^2$ giving your answer in the $a + b\sqrt{3}$ where a and b are integers.

…..………… **(3)**

5. Expand and simplify $(\sqrt{5} - \sqrt{10})^2$ giving your answer in the $a + b\sqrt{2}$ where a and b are integers.

…..………… **(4)**

6. Work out

$$\frac{(3 + \sqrt{5})(3 - \sqrt{5})}{\sqrt{8}}$$

Give your answer in the form $a\sqrt{2}$ where a is an integer.

…..………… **(3)**

7. Find the area of a square given that its perimeter is $\sqrt{80}cm$.

…..………… **(3)**