

Number - Surds

Q1

(a) Rationalise the denominator of $\frac{1}{\sqrt{3}}$

.....
(1)

(b) Expand $(2 + \sqrt{3})(1 + \sqrt{3})$

Give your answer in the form $a + b\sqrt{3}$, where a and b are integers.

.....
(2)

Q2

Simplify.

(a) $\sqrt{2} \times \sqrt{50}$

.....
.....
(a) _____ [2]

(b) $\sqrt{2} + \sqrt{50}$

.....
.....
(b) _____ [2]

Number - Surds

Q1

(a) Rationalise the denominator of $\frac{1}{\sqrt{3}} = \frac{1}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

$$\frac{\sqrt{3}}{3}$$

.....

(1)

(b) Expand $(2 + \sqrt{3})(1 + \sqrt{3})$

Give your answer in the form $a + b\sqrt{3}$, where a and b are integers.

$$\begin{aligned} & (2 + \sqrt{3})(1 + \sqrt{3}) \\ &= 2 + \sqrt{3} + 2\sqrt{3} + 3 \\ &= 5 + 3\sqrt{3} \end{aligned}$$

$$5 + 3\sqrt{3}$$

.....

(2)

Q2

Simplify.

(a) $\sqrt{2} \times \sqrt{50} = \sqrt{2 \times 50} = \sqrt{100} = 10$

.....

.....

(a) 10 [2]

(b) $\sqrt{2} + \sqrt{50} = \sqrt{2} + \sqrt{25 \times 2} = \sqrt{2} + 5\sqrt{2} = 6\sqrt{2}$

.....

.....

(b) $6\sqrt{2}$ [2]