

1. Simplify the following as much as possible.

(a)  $\sqrt{2} \times \sqrt{8}$

.....

[2]

(b)  $\sqrt{5} \times \sqrt{5} \times \sqrt{5} \times \sqrt{5}$

.....

[2]

2. (a) Evaluate.

$4^{-2} \times 9^{0.5}$

.....

[3]

(b) Write  $\frac{12}{\sqrt{3}}$  in the form  $a\sqrt{b}$ , where  $a$  and  $b$  are integers.

.....

[2]

(c) Given that  $q = \sqrt{2}$  and  $r = \sqrt{8}$ , evaluate the following.

(i)  $q^3r$

.....

[2]

(ii)  $\sqrt{qr}$

.....

[2]

3. Evaluate.

(a)  $\sqrt{3} \times \sqrt{12}$

.....

[2]

(b)  $\sqrt{3} \div \sqrt{12}$

.....

[2]

(c)  $(\sqrt{3})^6$

.....

[2]

4. (a) (i) Simplify.

$$\sqrt{20} \times \sqrt{5}$$

.....

[2]

(ii) Rationalise the denominator and simplify.

$$\frac{20}{\sqrt{5}}$$

.....

[2]

(b) Change  $0.4\dot{0}\dot{3}$  to a fraction.

.....

[2]

5. Simplify.

(a)  $\frac{\sqrt{15}}{\sqrt{5}}$

.....

[1]

(b)  $\sqrt{15} \times \sqrt{15} \times \sqrt{3}$

.....

[2]

(c)  $(\sqrt{5} + \sqrt{3})^2$

.....

[2]