

RADICALS

1. Evaluate the following

(a) $\sqrt{3} \times \sqrt{7}$

$\sqrt{\quad}$

(b) $\sqrt{24} \div \sqrt{6}$

$\sqrt{\quad}$
= $\underline{\hspace{2cm}}$

(c) $2\sqrt{3} \times 3\sqrt{5}$

$\sqrt{\quad}$

(d) $10\sqrt{8} \div 2\sqrt{2}$

$\sqrt{\quad}$
 $\times$
= $\underline{\hspace{2cm}}$

2. Simplify $(\sqrt{3})^2$

$\sqrt{\quad} \times \sqrt{\quad} = \sqrt{\quad}$
= $\underline{\hspace{2cm}}$

3. Work out the exact value of $(\sqrt{2})^4$

$$\sqrt{\quad} \times \sqrt{\quad} \times \sqrt{\quad} \times \sqrt{\quad}$$

.....

4. (a) Express $\sqrt{75}$ in its simplest form.

$$\sqrt{\quad} \times \quad = \sqrt{\quad} = \quad \sqrt{\quad}$$

- (b) Express $\sqrt{32}$ in its simplest form.

$$\sqrt{\quad} \times \quad = \sqrt{\quad} = \quad \sqrt{\quad}$$

- (c) Express $\sqrt{8}$ in its simplest form.

$$\sqrt{\quad} \times \quad = \sqrt{\quad} = \quad \sqrt{\quad}$$

- (d) Express $\sqrt{200}$ in its simplest form.

$$\sqrt{\quad} \times \quad = \sqrt{\quad} = \quad \sqrt{\quad}$$

5. Simplify fully

(a) $\sqrt{50} + \sqrt{32}$

$$\begin{aligned}\sqrt{50} &= \sqrt{\quad \times \quad} = \sqrt{\quad} \\ \sqrt{32} &= \sqrt{\quad \times \quad} = \sqrt{\quad}\end{aligned}$$

$$\begin{aligned}\sqrt{\quad} + \sqrt{\quad} \\ \downarrow \\ \sqrt{\quad}\end{aligned}$$

(b) $\sqrt{80} + \sqrt{20}$

$$\begin{aligned}\sqrt{80} &= \sqrt{\quad} \times \sqrt{\quad} = \sqrt{\quad} \\ \sqrt{20} &= \sqrt{\quad} \times \sqrt{\quad} = \sqrt{\quad}\end{aligned}$$

$$\sqrt{\quad} + \sqrt{\quad} = \sqrt{\quad}$$

$$\sqrt{\quad}$$

(c) $\sqrt{200} - \sqrt{72}$

$$\begin{aligned}\sqrt{200} &= \sqrt{\quad} \times \sqrt{\quad} = \sqrt{\quad} \\ \sqrt{72} &= \sqrt{\quad} \times \sqrt{\quad} = \sqrt{\quad}\end{aligned}$$

$$\sqrt{\quad} - \sqrt{\quad} \longrightarrow$$

$$\sqrt{\quad}$$

(d) $3\sqrt{12} + \sqrt{75}$

$$3\sqrt{12} = 3(\sqrt{\quad} \times \sqrt{\quad}) = 3(\quad \times \sqrt{\quad}) = \sqrt{\quad}$$

$$\sqrt{75} = \sqrt{\quad} \times \sqrt{\quad} = \sqrt{\quad}$$

$$\sqrt{\quad} + \sqrt{\quad} \longrightarrow$$

$$\sqrt{\quad}$$