

### Exercise 1

Extract factors out of the root sign.

Example:  $\sqrt{12} = \sqrt{3 \times 4} = 2\sqrt{3}$

(1)  $\sqrt{45} = \sqrt{\quad}$

(2)  $\sqrt{72} = \sqrt{\quad}$

(3)  $\sqrt{24} = \sqrt{\quad}$

(4)  $\sqrt{76} = \sqrt{\quad}$

(5)  $\sqrt{98} = \sqrt{\quad}$

(6)  $\sqrt{108} = \sqrt{\quad}$

(7)  $\sqrt{112} = \sqrt{\quad}$

(8)  $\sqrt{125} = \sqrt{\quad}$

(9)  $\sqrt{160} = \sqrt{\quad}$

(9)  $\sqrt{120} = \sqrt{\quad}$

## Addition and Subtraction

Similar or like surds (radicals) can be added or subtracted

### Exercise 2

Simplify

$$(1) \quad 3\sqrt{5} + 7\sqrt{5} + \sqrt{125} = \sqrt{\quad}$$

$$(2) \quad \sqrt{80} - \sqrt{20} + \sqrt{45} = \sqrt{\quad}$$

$$(3) \quad \frac{1}{2}\sqrt{8} + \frac{1}{3}\sqrt{18} - \frac{1}{4}\sqrt{32} = \sqrt{\quad}$$

$$(4) \quad \frac{2\sqrt{72} - 3\sqrt{18}}{\sqrt{8} + \sqrt{2}} =$$

$$(5) \quad \frac{\sqrt{x^2a} - \sqrt{y^2b}}{x-y} = \sqrt{\quad} - \sqrt{\quad}$$

$$(6) \quad \frac{\sqrt{8x} + \sqrt{32x}}{\sqrt{18x} + \sqrt{50x}} = \text{---}$$