Surds

i. **Write each of the following expressions as a single surd**

- $\sqrt{5} \times \sqrt{6}$
- $\sqrt{5} \div \sqrt{3}$
- $\sqrt{2} \times \sqrt{10}$
- $\dfrac{\sqrt{20}}{\sqrt{10}}$
- $\sqrt{4}\sqrt{5}$
- $\dfrac{\sqrt{100}}{\sqrt{25}}$

ii. **Rationalise the denominator of each of the following fractions**

- $\dfrac{2}{\sqrt{5}}$
- $\dfrac{5}{\sqrt{6}}$
- $\dfrac{3}{\sqrt{9}}$
- $\dfrac{2}{\sqrt{10}}$
- $\dfrac{4}{\sqrt{4}}$

iii. **Simplify the following expressions involving surds**

- $(5+\sqrt{6})(5-\sqrt{6})$
- $(3+\sqrt{7})^2$
- $(1+\sqrt{2})^2-(1-\sqrt{2})^2$
- $(1+\sqrt{2})^2-(2\sqrt{2}-\sqrt{2})^2$