# 5.2 Notes Day 2

Rationalizing the denominator

① $\frac{1}{2+\sqrt{5}} \cdot \frac{2-\sqrt{5}}{2-\sqrt{5}}$

Multiply by the conjugate of the denominator

$\frac{2-\sqrt{5}}{4-2\sqrt{5}+2\sqrt{5}-5}$

$\frac{2-\sqrt{5}}{-1}$

$-2+\sqrt{5}$

② $\frac{5-\sqrt{2}}{2-\sqrt{3}} \cdot \frac{2+\sqrt{3}}{2+\sqrt{3}} = \frac{10+5\sqrt{3}-2\sqrt{2}-\sqrt{6}}{4+2\sqrt{3}-2\sqrt{3}-3}$

$\frac{10+5\sqrt{3}-2\sqrt{2}-\sqrt{6}}{1}$

$10+5\sqrt{3}-2\sqrt{2}-\sqrt{6}$

③ $\sqrt[3]{\frac{14y^2}{9x}}$

$\frac{\sqrt[3]{14y^2}}{\sqrt[3]{9x}} \cdot \frac{\sqrt[3]{3x^2}}{\sqrt[3]{3x^2}} = \frac{\sqrt[3]{42x^2y^2}}{\sqrt[3]{27x^3}} = \frac{\sqrt[3]{42x^2y^2}}{3x}$

Makes denominator a perfect cube