

TEMA 2: NÚMEROS REALES: Racionalización de raíces.

EJERCICIO 1.

$$a) \frac{7}{\sqrt{3}} = \frac{7\sqrt{3}}{3}$$

$$b) \frac{5}{3\sqrt{2}} = \frac{5\sqrt{2}}{3\sqrt{2}\sqrt{2}} = \frac{5\sqrt{2}}{3 \cdot 2} = \frac{5\sqrt{2}}{6}$$

$$c) \frac{2}{\sqrt{27}} = \frac{2}{\sqrt{3^3}} = \frac{2}{3\sqrt{3}} = \frac{2\sqrt{3}}{3\sqrt{3}\sqrt{3}} = \frac{2\sqrt{3}}{3 \cdot 3} = \frac{2\sqrt{3}}{9}$$

$$d) \frac{5}{\sqrt{15}} = \frac{5\sqrt{15}}{\sqrt{15}\sqrt{15}} = \frac{5\sqrt{15}}{15} = \frac{\sqrt{15}}{3}$$

$$e) \sqrt{\frac{3}{5}} = \frac{\sqrt{3}}{\sqrt{5}} = \frac{\sqrt{3} \cdot \sqrt{5}}{\sqrt{5} \cdot \sqrt{5}} = \frac{\sqrt{15}}{5}$$

EJERCICIO 2.

$$a) \frac{\sqrt{2}}{\sqrt{3}+1} = \frac{\sqrt{2} \cdot (\sqrt{3}-1)}{(\sqrt{3}+1) \cdot (\sqrt{3}-1)} = \frac{\sqrt{2} \cdot (\sqrt{3}-1)}{(\sqrt{3})^2 - 1^2} = \frac{\sqrt{2} \cdot (\sqrt{3}-1)}{3-1} = \frac{\sqrt{2} \cdot (\sqrt{3}-1)}{2}$$

$$b) \frac{\sqrt{2}+\sqrt{3}}{\sqrt{2}-\sqrt{3}} =$$

$$\frac{\sqrt{2}+\sqrt{3}}{\sqrt{2}-\sqrt{3}} \cdot \frac{\sqrt{2}+\sqrt{3}}{\sqrt{2}+\sqrt{3}} = \frac{(\sqrt{2}+\sqrt{3})^2}{(\sqrt{2})^2 - (\sqrt{3})^2} = \frac{(\sqrt{2}+\sqrt{3})^2}{2-3} = -(\sqrt{2}+\sqrt{3})^2$$

$$c) \frac{2\sqrt{3}+\sqrt{2}}{2\sqrt{3}-\sqrt{2}} = \frac{(2\sqrt{3}+\sqrt{2}) \cdot (2\sqrt{3}+\sqrt{2})}{(2\sqrt{3}-\sqrt{2}) \cdot (2\sqrt{3}+\sqrt{2})} = \frac{(2\sqrt{3})^2 + 2 \cdot 2\sqrt{3} + (\sqrt{2})^2}{(2\sqrt{3})^2 - (\sqrt{2})^2} = \frac{4 \cdot 3 + 4\sqrt{3} + 2}{4 \cdot 3 - 2} =$$

$$= \frac{7+2\sqrt{3}}{5}$$