Puissances

Exercice 1.

a) $\boxed{a^{\frac{7}{9}}}$

b) $x^{\frac{1}{2}} \cdot x^{\frac{2}{5}} = \boxed{x^{\frac{9}{10}}}$

c) $\dfrac{x^{\frac{1}{3}}}{x^3} = \boxed{x^{-\frac{8}{3}} = \dfrac{1}{x^{\frac{8}{3}}}}$

d) $\dfrac{x^{\frac{3}{7}}}{x^{-2}} = \boxed{x^{\frac{17}{7}}}$

Exercice 2.

a) $\boxed{5\sqrt{2}x^2y^{10}}$

b) $\dfrac{2x^3}{\sqrt{y}} = \boxed{\dfrac{2x^3\sqrt{y}}{y}}$

c) $\boxed{3x\sqrt[4]{x}y^3}$

d) $\boxed{x^3y\sqrt[6]{y}}$

Exercice 3.

a) $5x(x^3 - 4) = 0 \quad \Rightarrow \boxed{\mathcal{S} \simeq \{0; 1.587\}}$

b) $x^3 = \dfrac{1}{125} \quad \Rightarrow \boxed{\mathcal{S} = \{0.2\}}$

Exercice 4.

a) $R = \dfrac{0,182 \cdot 12 \cdot \sqrt{22}}{\sqrt[3]{0,25}} \simeq \boxed{16,26}$

b) $S = \left(\dfrac{6 \cdot \sqrt[3]{0,45}}{0,182 \cdot 18}\right)^2 \simeq \boxed{1,97 \text{ m}^2}$

c) $D = \left(\dfrac{0,182 \cdot 20 \cdot \sqrt{32}}{10}\right)^3 \simeq \boxed{8,73 \text{ t}}$