

Use algebra to rewrite the functions below in the form $f(x)=a \cdot x^n$

Remember: $\frac{1}{x} = x^{-1}$ $\sqrt[n]{x} = x^{1/n}$ $\frac{1}{\sqrt[n]{x}} = x^{-1/n}$

$$\sqrt{x} = x^{1/2}$$

$$\sqrt[3]{x} = x^{1/3}$$

$$\sqrt[5]{x} = x^{1/5}$$

$$\sqrt[6]{x} = x^{1/6}$$

$$\frac{1}{x^7} = x^{-7}$$

$$\frac{1}{x^2} = x^{-2}$$

$$\frac{5}{r^3} = 5r^{-3}$$

$$\frac{7}{q^8} = 7q^{-8}$$

$$\frac{-3}{r^4} = -3r^{-4}$$

$$\frac{1}{\sqrt[3]{x}} = x^{-1/3}$$

$$\frac{2}{\sqrt[5]{x}} = 2x^{-1/5}$$

$$\frac{4}{\sqrt[9]{x}} = 4x^{-1/9}$$

$$\frac{-2}{\sqrt[3]{x}} = -2x^{-1/3}$$

$$\frac{-3}{\sqrt[4]{x}} = -3x^{-1/4}$$

$$\frac{4}{\sqrt{x}} = 4x^{-1/2}$$

$$\frac{7}{\sqrt[5]{x^6}} = 7x^{-6/5}$$

$$\frac{8}{\sqrt[4]{x^3}} = 8x^{-3/4}$$

$$\frac{-9}{\sqrt[7]{x^4}} = -9x^{-4/7}$$

$$\frac{10}{\sqrt[4]{x^5}} = 10x^{-5/4}$$

$$\frac{20}{\sqrt[3]{x^7}} = \frac{20}{3}x^{-7/4}$$

$$\frac{43}{7\sqrt{x}} = \frac{43}{7}x^{-1/2}$$

Write as a sum of power functions:

$$\frac{3x^2 + 2}{\sqrt{x}} = \frac{3x^2}{x^{1/2}} + \frac{2}{x^{1/2}} = 3x^{3/2} + 2x^{-1/2}$$

$$\frac{4x^3 + \sqrt{x}}{x^2} = \frac{4x^3}{x^2} + \frac{x^{1/2}}{x^2} = 4x + x^{-3/2}$$

$$\frac{5\sqrt{x} + x^3}{\sqrt[3]{x}} = \frac{5x^{1/2}}{x^{1/3}} + \frac{x^3}{x^{1/3}} = 5x^{1/6} + x^{8/3}$$

$$\frac{x^4 + 3x^2}{\sqrt{x}} = \frac{x^4}{x^{1/2}} + \frac{3x^2}{x^{1/2}} = x^{7/2} + 3x^{3/2}$$