1.6.6 Evaluate each of the following *without a calculator*:

(b) $(-2^4 \times 3^3)^3 \times \dfrac{8 \times 27}{(2^3 \times 3^3)^4}$ (c)★ $\dfrac{(-40)^7}{2^{30} \times 25^3}$

the equation $8^x - 2$ [illegible]

□

Exercises ►

1.7.1 Evaluate each of the following without a calculator:

(c) $(-216)^{1/3}$

1.7.3 Evaluate each of the following without a calculator:

(b) $(-1)^{36/5}$

(d) $(-8)^{-4/3}$

1.7.5 Evaluate each of the following without a calculator:

(a) $(5^{1/3})^2 \times 5^{4/3}$

(d)$\star$ $\dfrac{(8^2 \times 5^3)^{3/5}}{2^{3/5} \times 5^{-1/5}}$

Problem 1.38: Simplify $\sqrt[3]{625} - \sqrt[3]{40} + 5\sqrt[3]{-135}$.

1.8.1 Simplify each of the following without a calculator:

(d) $\sqrt{6.76}$ (f) $\left(-\sqrt{27}\right)^3$

1.8.2 Simplify each of the following without a calculator:

(e) $\left(\sqrt[3]{7}\right)^9$

(b) $\sqrt[4]{81}$

1.8.4 Simplify each of the following without a calculator:

(a) $\sqrt{28} + \sqrt{63} - \sqrt{175}$

(d)★ $\sqrt[3]{\frac{256}{27}} + \sqrt[3]{32} - \sqrt[3]{\frac{12}{81}}$

1.8.5

(b)★ What number x makes the equation $\sqrt{8} \times \sqrt[5]{4} = 2^x$ correct?

1.8.6 Find the integers a and b such that $\frac{\sqrt{600} - \sqrt{150} + 3\sqrt{54}}{6\sqrt{32} - 2\sqrt{50} - \sqrt{288}} = a\sqrt{b}$, and $\sqrt{b}$ cannot be simplified.