1.7.1)

(a) $64^{1/3} = (4^3)^{1/3} = 4$

(b) $10000^{1/2} = (100^2)^{1/2} = 100$

(c) $(-216)^{1/3} = (-6^3)^{1/3} = -6$

(d) $7056^{1/2}$

$$7056 = 9 \times 8 \times 2 \times 7^2$$
$$= 3^2 \times 2^4 \times 7^2$$
$$= 3^2 \times 4^2 \times 7^2 = (3 \times 4 \times 7)^2$$

$$\left((3 \times 4 \times 7)^2\right)^{1/2} = 84$$

1.7.2) $0^{1/2} = 0$

1.7.3) (a) $4^{5/2} = 4^{5 \cdot \frac{1}{2}} = (2^2)^{5 \cdot \frac{1}{2}} = 32$

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

(c) $27^{5/3} = (3^3)^{5/3} = 3^5 = 243$

(d) $(-8)^{-4/3} = \frac{1}{(-8)^{4/3}} = \frac{1}{(-2^3)^{4/3}} = \frac{1}{(-1)^{4/3} \cdot (2^3)^{4/3}} = \frac{1}{16}$

1.7.4)

(a) $x^4 = 4$

$x^{2 \cdot 2} = 2^2$

$x^2 = 2$

$(x^2)^2 = 2$ $\quad 1.4^4 \simeq 3.84$ y $1.5^4 \simeq 5.06$

$4^{1/4}$ está entre 1.4 y 1.5. Sí

(b) No hay número cuya 4 potencia sea negativa.

1.7.5)

(a) $(5^{1/3})^2 \times 5^{4/3} = 5^{2/3} \times 5^{4/3} = 5^{(2/3 + 4/3)} = 5^2 = 25$

(b) $(-2^{1/3})^9 = -2^3 = -8$

(c) $(12^{1/2})^{3/2} \times 3^{1/4} \times 2^{1/2}$

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

$= 3^{3/4} \times 2^{3/2} \times 3^{1/4} \times 2^{1/2}$

$= 3 \times 2^2 = 3 \times 4 = 12$

(d) $\dfrac{(8^2 \times 5^3)^{3/5}}{2^{3/5} \times 5^{-1/5}} = \dfrac{2^{10/5} \times 5^{9/5} \times 5^{1/5}}{2^{3/5}}$

$= 2^3 \times 5^2 = 8 \times 25 = 200$