

1.7.1)

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

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

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

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

$$\begin{array}{r} 7056 \overline{) 784} \\ 63 \phantom{00} \\ \underline{75} \phantom{00} \\ 72 \phantom{00} \\ \underline{36} \phantom{00} \\ 0 \end{array}$$

$$\begin{array}{r} 704 \overline{) 98} \\ 32 \phantom{00} \\ \underline{64} \phantom{00} \\ 64 \phantom{00} \\ \underline{0} \phantom{00} \end{array}$$

98

$$7056 = 9 \times 8 \times 2 \times 7^2$$

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

$$= 3^2 \times 2^4 \times 7^2$$

$$= 3^2 \times 4^2 \times 7^2 = (3 \times 4 \times 7)^2$$

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

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

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

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

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

1.7.4)

$$(a) x^4 = 4$$

$$x^2 = 2$$

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

$$x^4 = 4$$

$$(x^2)^2 = 2$$

$$1.4^4 \approx 3.84$$

$$y \quad 1.5^4 \approx 5.06$$

$4^{1/4}$  está entre 1.4 y 1.5.

Sí

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

1.7.5)

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

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

$$\begin{aligned} (c) (12^{1/2})^{3/2} \times 3^{1/4} \times 2^{1/2} \\ = (3 \times 2^2)^{3/4} \times 3^{1/4} \times 2^{1/2} \\ = 3^{3/4} \times 2^{3/2} \times 3^{1/4} \times 2^{1/2} \\ = 3 \times 2^2 = 3 \times 4 = 12 \end{aligned}$$

$$\begin{aligned} (d) \frac{(8^2 \times 5^3)^{3/5}}{2^{3/5} \times 5^{-1/5}} &= \frac{2^{10/5} \times 5^{9/5} \times 5^{1/5}}{2^{3/5}} \\ &= 2^3 \times 5^2 = 8 \times 25 = 200 \end{aligned}$$