

Cubes and Cubes Roots Ex 4.2 Q4

Answer:

$$\therefore \left(\frac{7}{9}\right)^3 = \frac{7^8}{9^8} = \frac{7 \times 7 \times 7}{9 \times 9 \times 9} = \frac{343}{729}$$

$$\therefore \left(-\frac{8}{11}\right)^3 = -\left(\frac{8}{11}\right)^3 = -\left(\frac{8^3}{11^3}\right) = -\left(\frac{8 \times 8 \times 8}{11 \times 11 \times 11}\right) = -\frac{512}{1331}$$

$$\therefore \left(\frac{12}{7}\right)^3 = \frac{12^8}{7^8} = \frac{12 \times 12 \times 12}{7 \times 7 \times 7} = \frac{1728}{343}$$

$$\therefore \left(-\frac{13}{8}\right)^3 = -\left(\frac{13}{8}\right)^3 = -\left(\frac{13^8}{8^3}\right) = -\left(\frac{13 \times 13 \times 13}{8 \times 8 \times 8}\right) = -\frac{2197}{512}$$

(V)

We have:

$$2\frac{2}{5} = \frac{12}{5}$$

Also,
$$\left(\frac{m}{n}\right)^3 = \frac{m^3}{n^3}$$

$$\therefore \left(\frac{12}{5}\right)^3 = \frac{12^8}{5^8} = \frac{12 \times 12 \times 12}{5 \times 5 \times 5} = \frac{1728}{125}$$

(vi)

We have:

$$3\frac{1}{4} = \frac{13}{4}$$

Also,
$$\left(\frac{m}{n}\right)^3 = \frac{m^3}{n^3}$$

$$\therefore \left(\frac{13}{4}\right)^3 = \frac{13^3}{4^3} = \frac{13 \times 13 \times 13}{4 \times 4 \times 4} = \frac{2197}{64}$$

(vii)

We have:

$$0.3 = \frac{3}{10}$$

Also,
$$\left(\frac{m}{n}\right)^3 = \frac{m^3}{n^3}$$

$$\therefore \left(\frac{3}{10}\right)^3 = \frac{3^8}{10^3} = \frac{3 \times 3 \times 3}{10 \times 10 \times 10} = \frac{27}{1000} = 0.027$$

(Viii)

We have:

$$1.5 = \frac{15}{10}$$

Also,
$$\left(\frac{m}{n}\right)^3 = \frac{m^3}{n^3}$$

$$\therefore \left(\frac{15}{10}\right)^3 = \frac{15^3}{10^3} = \frac{15 \times 15 \times 15}{10 \times 10 \times 10} = \frac{3375}{1000} = 3.375$$

(ix)

We have:

$$0.08 = \frac{8}{100}$$

Also,
$$\left(\frac{m}{n}\right)^3 = \frac{m^3}{n^3}$$

$$\therefore \left(\frac{8}{100}\right)^3 = \frac{8^8}{100^8} = \frac{8 \times 8 \times 8}{100 \times 100 \times 100} = \frac{512}{1000000} = 0.000512$$

(X)

We have:

$$2.1 = \frac{21}{10}$$

Also,
$$\left(\frac{m}{n}\right)^3 = \frac{m^3}{n^3}$$

$$\therefore \left(\frac{21}{10}\right)^3 = \frac{21^8}{10^8} = \frac{21 \times 21 \times 21}{10 \times 10 \times 10} = \frac{9261}{1000} = 9.261$$

****** END ******