

# Zapamiętaj

Potęga o wykładniku ujemnym jest odwrotnością potęgi o tej samej podstawie i przeciwnym wykładniku.

$$\begin{array}{l} 2^{-3} = \frac{1}{8} \\ 2^{-2} = \frac{1}{4} \\ 2^{-1} = \frac{1}{2} \\ 2^0 = 1 \\ 2^1 = 2 \\ 2^2 = 4 \\ 2^3 = 8 \end{array}$$

Diagram showing the relationship between powers of 2. Green arrows point from  $2^0 = 1$  to  $2^{-1} = \frac{1}{2}$ ,  $2^{-2} = \frac{1}{4}$ , and  $2^{-3} = \frac{1}{8}$ , with the label ":2" indicating division by 2. Similarly, green arrows point from  $2^1 = 2$  to  $2^2 = 4$  and  $2^3 = 8$ , also with the label ":2" indicating multiplication by 2.

Przykłady:

$$4^{-3} = \frac{1}{4^3} = \frac{1}{64}$$

$$\left(\frac{2}{3}\right)^{-2} = \frac{1}{\left(\frac{2}{3}\right)^2} = \frac{1}{\frac{4}{9}} = \frac{9}{4}$$

$$1,5^{-4} = \left(\frac{3}{2}\right)^{-4} = \frac{1}{\left(\frac{3}{2}\right)^4} = \frac{1}{\frac{81}{16}} = \frac{16}{81}$$

$$a^{-n} = \frac{1}{a^n}$$

