# Negative Exponents
Lesson 22

- Negative exponents are usually used to express values less than one
- To work out a question with a negative exponent, we…
  - Write the reciprocal of the base
  - Change the negative exponent to positive
  - Then calculate the answer the same way as with positive exponents

**EXAMPLES:**

1.) $4^{-2} = (1/4)^2 = (1/4)(1/4) = \boxed{1/16}$

2.) $2^{-3} = \left(\frac{1}{2}\right)\left(\frac{1}{2}\right)\left(\frac{1}{2}\right) = \boxed{\frac{1}{8}}$

3.) $(2/3)^{-4} = \left(\frac{3}{2}\right)\left(\frac{3}{2}\right)\left(\frac{3}{2}\right)\left(\frac{3}{2}\right) = \boxed{\frac{81}{16}}$

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

5.) $-3^{-2} = -\left(\frac{1}{3}\right)\left(\frac{1}{3}\right) = \boxed{\frac{-1}{9}}$