

March 4th, 2016

Unit 3 Day 5

3-4 Negative Exponents + Flipping

Negative exponents create a "flip" effect.

$$\begin{aligned} 1) \left(\frac{3}{5}\right)^{-2} \\ = \left(\frac{5}{3}\right)^2 \\ = \frac{25}{9} \end{aligned}$$

$$\begin{aligned} 2) 3^{-4} \\ = \frac{1}{3^4} \end{aligned}$$

$$\begin{aligned} 3) \left(\frac{5}{6}\right)^{-1} \\ = \left(\frac{6}{5}\right)^1 \\ = \frac{6}{5} \end{aligned}$$

$$\begin{aligned} 4) \frac{2^{-4}}{3^{-3}} \\ = \frac{3^3}{2^4} \\ = \frac{27}{16} \end{aligned}$$

* Bases with negative exponents are flipped!
Positive exponents are not.

$$\begin{aligned} 5) 5x^{-3} \\ = \frac{5}{x^3} \end{aligned}$$

$$\begin{aligned} 6) \frac{2^2 \cdot 3^{-2}}{4^{-1}} \\ = \frac{2^2 \cdot 4^1}{3^2} \\ = \frac{16}{9} \end{aligned}$$

$$\begin{aligned} 7) \frac{3^{-2} \cdot 3^5}{(3^{-3})^{-2}} \\ = \frac{3^3}{3^6} \\ = 3^{-3} \\ = \frac{1}{3^3} \\ = \frac{1}{3^3} \end{aligned}$$

$$\begin{aligned} 8) \frac{(2^{-2}x^3)^{-4}}{(2^3x^4)^{-4}} \\ = \frac{2^8x^{-12}}{2^{-12}x^{-16}} \\ = \frac{2^{20}x^4}{1} \end{aligned}$$

8 --- 12
-12 --- 16

Practice 3-5