Chapter 4: Exponential Functions

- 1. Algebra of exponents
- 2. Transformations
- 3. Applications

$$\left(\frac{(-3)^7(-3)^4}{(-3^4)^3}\right)^{-3}$$

$$-\frac{3}{3}$$

$$= \left(\frac{3}{3}\right)^{-3}$$

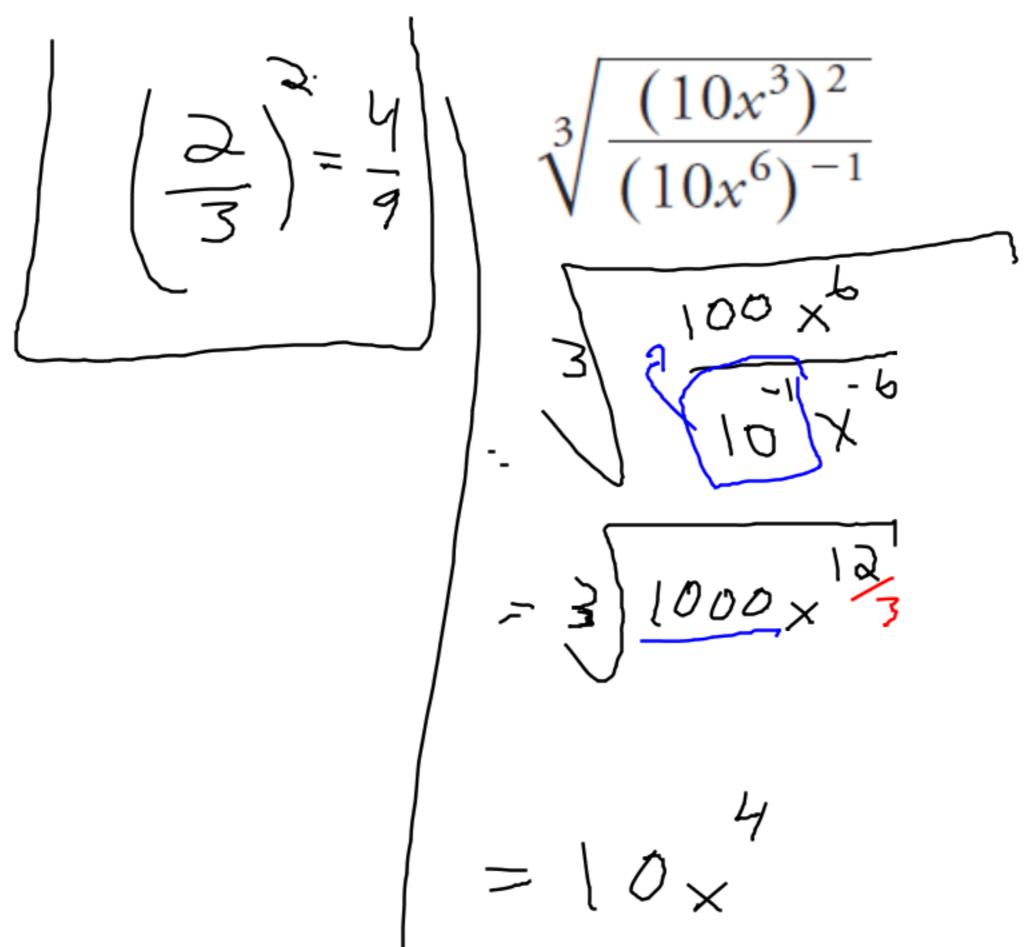
$$= 3 = 3 = 3 = \frac{3}{3} = \frac{1}{3}$$

$$8^{\frac{2}{3}} - 81^{\frac{3}{4}} + 4^2 =$$

$$\sqrt[4]{\left(\frac{16}{81}\right)^{-1}}$$

$$= \sqrt[3]{\frac{8}{16}}$$

$$= \sqrt[3]{\frac{3}{2}}$$



$$S(x) = -3(\frac{1}{2})^{\frac{1}{4}x-2} + 5$$

base =
$$\frac{1}{2}$$

The population of a town is growing at an average rate of 5% per year. In 2000, its population was 15 000. What is the best estimate of the population in 2020 if the town continues to grow at this rate?

$$F(x) = 15000(1.05)^{x}$$

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$$= 39.799.46$$

When will we reach 50.000?

$$f(x) = ab \Rightarrow growth/feen$$

$$4Final : nitral
$$g: b = 1 - r$$

$$J: b = 1 - r$$$$