

Alg I 7.1 notes.notebook

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Zero and Negative Exponents

An exponent is a mathematical operator that indicates repeated multiplication. For example, $x^3 = (x)(x)(x)$.

2^{-4}	2^{-3}	2^{-2}	2^{-1}	2^0	2^1	2^2	2^3	2^4

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The properties we need to consider...

$$x^0 = 1 \quad \text{and} \quad x^{-a} = \frac{1}{x^a}$$

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Simplify.

1) 7^0

2) 7^{-1}

3) 7^{-2}

4) -10^2

5) -10^0

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Simplify on your own...

6) -10^{-2}

7) $(-10)^{-2}$

8) $\left(\frac{8}{39}\right)^0$

9) $\left(\frac{8}{39}\right)^{-1}$

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Simplify.

10) $5x^0y$

11) $\frac{7^0 a^{-5} b^4}{3^{-2} c^3 d^{-2}}$

on your own...

12) $\frac{2}{x^{-4}}$

13) $3x^{-4}y^2$

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Evaluate each expression for $r = 2$ and $s = -4$.

14) r^{-3}

15) s^2

on your own...

16) $\frac{2r^2}{s^{-1}}$

17) $-3r^{-3}s$