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Multiplying

Keep the base the same and add the powers

$$p^a \times p^b = p^{a+b}$$

Dividing

Keep the base the same and subtract the powers

$$p^a \div p^b = p^{a-b}$$

Power to a power

Keep the base the same and multiply the powers

$$(p^a)^b = p^{a \times b}$$

Power of zero

Anything to the power of zero is one

$$p^0 = 1$$