Slide 1:

As you move down a column subtract one from the exponent.

As you move down a column divide by 2.

2^4	16
2^3	8
2^2	4
2^1	2

1 as an exponent:

For every number a,

$a^1 = a$

Any number raised to the first power = itself

Slide 2:

If there is no exponent on a number it is assumed to be 1

Slide 3:

As you move down a column subtract one from the exponent.

As you move down a column divide by 2.

2^4	16
2^3	8
2^2	4
2^1	2
2^0	1

$a^0 = 1$

any number, a, to the zero power equals 1

EXCEPT:
a can't be zero.

Slide 4:

Why isn't $0^0 = 1$?

$0^3 = 0$
$0^2 = 0$
$0^1 = 0$ ...

by this pattern it appears that 0^0 should be 0

$3^0 = 1$
$2^0 = 1$
$1^0 = 1$...

by this pattern it appears that $0^0 = 1$

Since 0^0 can't be both 0 and 1
0^0 is undefined.

As you move down a column subtract one from the exponent.

2^4	16
2^3	8
2^2	4
2^1	2
2^0	1
2^{-1}	$\frac{1}{2}$

As you move down a column divide by 2.

$$a^{-n} = \frac{1}{a^n}$$

any number, **a**, raised to a negative integer power is the reciprocal of that number to the positive power.

EXCEPT **a** can't be zero.

Simplify each. Write your answer so that no exponents are zero or negative.

$$Q^{-5} = \boxed{\frac{1}{Q^5}}$$

$$5a^{-2} = \boxed{\frac{5}{a^2}}$$

$$\frac{4}{e^{-3}} = \boxed{4 \, e^3}$$

$$7Q^{-5}R^0 = \boxed{\frac{7}{Q^5}}$$

$$\frac{-7x^{-2}}{y^{-1}} = \boxed{\frac{-7y}{x^2}}$$

$$6b^{-2} + c^0 = \boxed{\frac{6}{b^2} + 1}$$

$3^{-2}m^{-4}n$

$$\frac{n}{3^2 m^4} = \boxed{\frac{n}{9m^4}}$$

$$\frac{c^{-3}d^{-2}}{-6b^4} = \boxed{\frac{1}{-6c^{-3}d^2 b^4}}$$

$$\frac{10p^{-5}q^6}{m^0 n^{-2}} = \boxed{\frac{10n^2 q^6}{p^5}}$$

$$\frac{5^{-2}a^{-1}b^{-4}}{4c^6 d^{-7}}$$

$$= \frac{5^2}{}$$

$$\frac{d^7}{25\,a\,b^4\,4c^6} = \boxed{\frac{d^7}{100ab^4c^6}}$$