1. Simplify using only positive exponents:

a. $8b^{-4}c^{0}d^{6}$

$$\frac{8d^{6}}{b^{4}}$$

b. $\dfrac{3^{2}w^{-3}}{x^{-2}y^{7}}$

$$\frac{9x^{2}}{w^{3}y^{7}}$$

1	3
2	4

2. Complete the equation:

a. $\frac{x^{?}}{9y^{4}} = \frac{1}{9x^{6}y^{4}}$

0-6

1	3
2	4

b. $\frac{4m^{0}}{n^{?}} = 4n^{5}$

-5

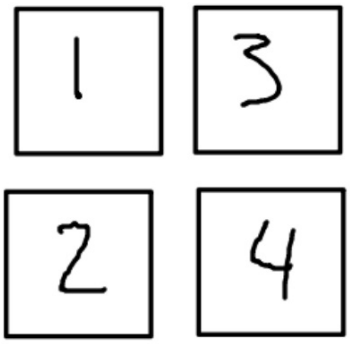
3. Write each number using scientific notation:

a) 7,330,000,000.

7.33×10^{9}

b) 0.00003401

3.401×10^{-5}



4. Simplify each expression:

a. $x^2 x^{-5}$ $x^{-3} = \frac{1}{x^3}$

1	3
2	4

b. $t^3 s t^{-7}$ $\frac{s}{t^4}$

5. Simplify each expression:

a. $11x(4xy^{-3})(y^{7})$

$44x^{2}y^{4}$

b. $-2a^{2}(-5n)^{-2}(4a^{6})$

$\frac{-2a^{2}(4a^{6})}{(-5n)^{2}} = \frac{-8a^{8}}{25n^{2}}$

1	3
2	4

6. Complete each equation:

a. $3^{?} \cdot 3^{5} = 3^{2}$?: -3

b. $a^{-5} \cdot a^{?} = a^{-7}$?: -2

c. $v^{-2} \cdot v^{2} \cdot v^{?} = v^{7}$?: 7

1	3
2	4

7. Simplify each expression:

a. $(m^{-4})^2$ $= \frac{1}{m^8}$

$(m^{-4})(m^{-4})$

b. $(b^{-7})^{-3}$ b^{21}

c. $(2d^{-2}r)^3$ $\frac{8r^3}{d^6}$

1	3
2	4

a. $\dfrac{21x^{-3}}{3x}$

$\dfrac{7x^{-3}}{x} = \dfrac{7}{x \cdot x^3} = \dfrac{7}{x^4}$

b. $\left(\dfrac{x^3 y^{-2}}{x^6}\right)^{-2}$

$\dfrac{x^{-6} y^4}{x^{-12}} = \dfrac{x^{12} y^4}{x^6} = \boxed{x^6 y^4}$