

8.4a Warm-Up:

$$3. \frac{6b^0}{a^4} = \frac{6 \cdot 1}{a^4} = \boxed{\frac{6}{a^4}}$$

3. Simplify $6a^{-4}b^0$.

4. Simplify $\frac{8x^3y^{-4}}{12x^2y^{-3}}$.

$$5. 10^{-12} \cdot 10^9 \left[10^3 \right]$$

5. A human cell uses on average about 10^{-12} watts of power. The laser in a CD-R drive uses about 10^9 times as many watts. About how many watts of power does the laser in a CD-R drive use?

$$4. \frac{8x^3y^3}{12x^2y^4}$$

(Handwritten red annotations: $8x^3y^1$ over $12x^2$)

$$\frac{8x^1y^{-1}}{12}$$

(Handwritten blue annotations: $8x$ over $12y$)

$$= \boxed{\frac{2x}{3y}}$$

Scientific notation is ...

$$\# \times 10^?$$

$$1 \leq \# < 10$$

? - # of places
to move decimal

Examples:

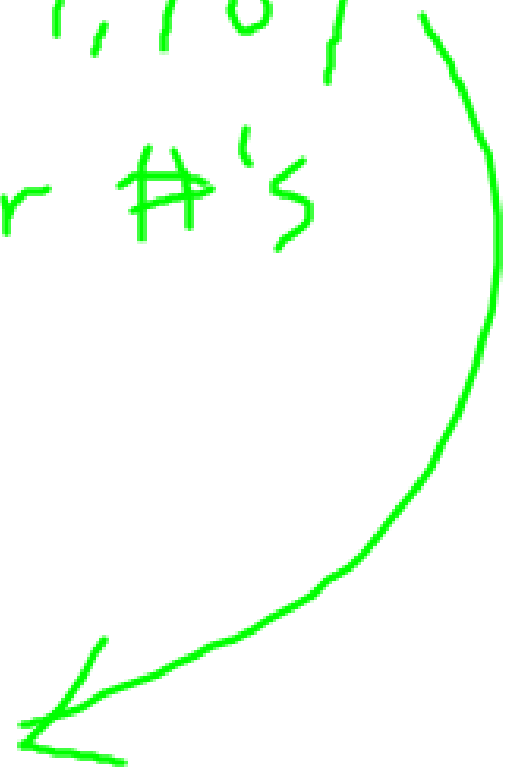
$$2 \times 10^{-3}$$

Standard form is ...

1,234,789

regular #'s

Examples:



Write numbers in scientific notation:

a. 42,590,000 4.259×10^7

b. 0.0000574 5.74×10^{-5}

1. 539,000 5.39×10^5

Write the numbers in standard form.

a. 2.0075×10^6

2,007,500

2,007,500

b. 1.685×10^{-4}

0.0001685

.0001685

1. 4.5×10^{-4}

0.00045

.00045

Try these:

Write the numbers in scientific notation.

a. 267,500,000

$$2.675 \times 10^8$$

b. 0.000486

$$4.86 \times 10^{-4}$$

Write the numbers in standard form.

a. 7.0234×10^5

702340
702,340

b. 3.096×10^{-6}

000003096
0.000003096

Homework:

p 515

#'s 1-28 all