

Complete as many of the following problems as you can. You do not have to go in order.

If **your entire table** finishes early, you may leave early.

(1) Simplify each exponential expression.

(a)  $x^3 \cdot x^2$

(c)  $(3x)^3$

(b)  $\frac{x^{36}}{x^{29}}$

(d)  $\left(-\frac{2}{x}\right)^2$

(2) Simplify each exponential expression.

(a)  $(-6x^3y)(-2x^5y^2)$

(c)  $\left(\frac{-10a^{13}b^6}{30a^{18}b^{-3}}\right)^2$

(b)  $\left(\frac{x^{-2}y^8}{x^{-4}y^{12}}\right)^{-2}$

(d)  $\left(\frac{30x^{26}y^{45}}{41x^{-32}y}\right)^0$

(3) Convert from a standard number to scientific notation or vice versa.

(a) 4500000

(c)  $4.6 \times 10^{-7}$

(b) 0.0000212

(d)  $1.36 \times 10^7$