

Show all work and circle/box your simplified answers. If you do the problem incorrectly, or don't show sufficient work, you will be asked to rewrite the problem for credit. Students who turn assignments in late (or do not attempt a problem) forfeit their ability to rewrite those problems for credit.

Due at the start of next class (unless otherwise arranged with Professor MG).

(1) Evaluate $3(a + b)^2 + 4(a + b) - 6$, when $a = 4$ and $b = -1$

(2) Evaluate $\frac{-b - \sqrt{b^2 - 4ac}}{2a}$, when $a = 2$, $b = 1$, and $c = -10$

(3) Simplify the following expressions:

(a) $-5x^0$

(c) $x^0 + y^0$

(b) $(7y)^0$

(d) $(x + y)^0$

(4) Simplify $x^7 \cdot x^3$

(5) Simplify $(5x^2y^{-2})(-2x^5y^2)$

(6) Simplify $(-2y^{-4})^{-4}$

(7) Simplify $\left(\frac{5x}{4y^2}\right)^2$

(8) Simplify $\left(\frac{28a^4b^7}{14a^9b^6}\right)^5$

(9) Simplify $\left(\frac{9x^4y^{-6}z^4}{4xy^{-6}z^{-2}}\right)^{-2}$

(10) Convert from scientific notation to a standard number or vice versa:

(a) 9,260,000,000

(b) 6.78×10^{-5}