

Instructions: Show all work. Reduce as much as possible and use exact answers unless specifically asked to round.

1. Simplify.

a. $\frac{9a^4b^7}{27ab^2}$

$$\frac{a^3b^5}{3}$$

b. $2^3 + 2^0$

$$8 + 1 = 9$$

c. $(-3xy^2a^3)^2$

$$9x^2y^4a^6$$

2. Perform the indicated operation.

a. $(3x - 8) + (4x^2 - 3x + 3)$

$$4x^2 - 5$$

b. $(-7x^2 + 4x + 7) - (-8x + 2)$

$$-7x^2 + 12x + 5$$

c. $4x(5x^2 - 6x - 10)$

$$20x^3 - 24x^2 - 40x$$

d. $(x + 2)(x + 9)$

$$x^2 + 11x + 18$$