

Instructions: Show all work. Give exact answers (improper fractions) and do not round unless specifically asked to do so. If you work the problem in your calculator you can write keystrokes to show work for partial credit.

1. Evaluate the expression $\frac{2y-3z^2}{3z+4y}$ for $y = 2, z = -3$.

$$\frac{2(2) - 3(-3)^2}{3(-3) + 4(2)} = \frac{4 - 3(9)}{-9 + 8} = \frac{4 - 27}{-1} = \frac{-23}{-1} = 23$$

2. Translate the following into algebraic expressions.

- a. The difference of 14 and 9

$$14 - 9$$

- b. Eight times the difference of y and nine

$$8(y - 9)$$

- c. Nine times five less than twice x

$$9(2x - 5)$$

3. Evaluate $6x + 3y - 9$ when $x = 6, y = 9$

$$6(6) + 3(9) - 9 = 36 + 27 - 9 = 54$$

4. Combine like terms: $3x^2 + 12x + 11 + 14x^2 + 8x + 5$

$$17x^2 + 20x + 16$$