To receive credit, you must show your work.

1. Evaluate WITHOUT a calculator.

a.

$$12 + 2 * 3$$
$$12 + 6$$
$$\boxed{18}$$

b.

$$5 + 2(3 + 2^2)$$
$$5 + 2(3 + 4)$$
$$5 + 2(7)$$
$$5 + 14$$
$$\boxed{19}$$

c.

$$-3^2 + 5 + 4 * 2$$
$$-9 + 5 + 8$$
$$\boxed{4}$$

d.

$$-5 - (-4) + (-10) - (-2)(3$$
$$-5 + 4 - 10 + 6$$
$$\boxed{-5}$$

e.

$$12 \div 4 * 3 - 5$$
$$3 * 3 - 5$$
$$9 - 5$$
$$\boxed{4}$$

f.

$$3[5 + 6(7 - 3) + 7]$$
$$3[5 + 6(4) + 7]$$
$$3[5 + 24 + 7]$$
$$3[36]$$
$$\boxed{108}$$

2. Simplify by combining like terms.

a.

$$3a^2 - 2b^2 - 7a^2 - 3b^2$$
$$\boxed{-4a^2 - 5b^2}$$

b.

$$\frac{1}{5}ab^2 - \frac{3}{10}ab^2 + \frac{2}{5}ab^2 + \frac{7}{10}ab^2$$
$$\frac{2}{10}ab^2 - \frac{3}{10}ab^2 + \frac{4}{10}ab^2 + \frac{7}{10}ab^2$$
$$\frac{10}{10}ab^2$$
$$\boxed{ab^2}$$

c.

$$3(2u^2 + 1) + 4(u^2 - 5)$$
$$6u^2 + 3 + 4u^2 - 20$$
$$\boxed{10u^2 - 17}$$

d.

$$3(2x - 3y) - 4(3x + 5y) - x$$
$$6x - 9y - 12x - 20y - x$$
$$\boxed{-7x - 29y}$$

e.

$$-5(x^2 - 4) - 2(3x^2 + 6) + (2x^2 - 1)$$
$$-5x^2 + 20 - 6x^2 - 12 + 2x^2 - 1$$
$$\boxed{-9x^2 + 7}$$

3. Translate each English phrase into an algebraic expression.

a. Four increased by twice a number

$$\boxed{4 + 2n}$$

b. Six less than two-thirds of a number

$$\boxed{\frac{2}{3}n - 6}$$

c. Ten times the difference of a number and 14

$$\boxed{10(n - 14)}$$

d. Eight subtracted from the quotient of a number and seven

$$\boxed{\frac{n}{7} - 8}$$

e. The quotient of a number and three less than the number

$$\boxed{\frac{n}{n-3}}$$