Name: _____

Operations with Polynomials

1) Perform the indicated operations. Write your final answer with the terms in descending order, from greatest to least degree.

   1) $(x-1)+(x+7)$

   2) $(x-1)-(x+7)$

   3) $(x+2)+(x-3)$

   4) $(x+2)-(x-3)$

   5) $\left(5x-2x^2+8x^4\right)+\left(2+x-4x^3\right)$

   6) $\left(5x-2x^2+8x^4\right)-\left(2+x-4x^3\right)$

   7) $4+2x-3x^3+5-4x^2+x^3$

   8) $\left(4+2x-3x^3\right)-\left(5-4x^2+x^3\right)$

   9) $\left(-2x^4+5x^3-3x\right)+\left(x^5+2x^3-x\right)$

   10) $\left(-2x^4+5x^3-3x\right)-\left(x^5+2x^3-x\right)$

   11) $\left(5x^2-7x+2\right)+\left(x^2+4x-3\right)$

   12) $\left(5x^2-7x+2\right)-\left(x^2+4x-3\right)$

   13) $\left(3x^2+2x-1\right)+\left(2x^2-5x+3\right)$

   14) $\left(3x^2+2x-1\right)-\left(2x^2-5x+3\right)$

   15) $x^7-4x^4+2x+6x^5-3x^4-5x$

   16) $\left(x^7-4x^4+2x\right)-\left(6x^5-3x^4-5x\right)$

   17) $5x-3x^4+\left(4x^3-2x^2+3\right)$

   18) $5x-3x^4-\left(4x^3-2x^2+3\right)$

2) Simplify each expression.

   1) $6b + 3b$
   2) $4a + 2b - 8a + 5b$
   3) $9 + 12s - 2s$
   4) $3 - 4p + 2p$
   5) $8 - k - 7 + 6k$
   6) $m - 3n + 3m$

3) Write $6m + (3k + m) + 2k - 4(m + 1)$ in simplest form.

4) Find each sum.

1)
$$7x - 2$$
$$(+)\ x + 4$$

2)
$$6x^2 - 2x - 1$$
$$(+)\ 3x^2 - 4x - 7$$

3)
$$2xy - 3x + 2$$
$$(+)\ 4xy \qquad - 7$$