

**Math 0408-Learning Outcome: Factor by Grouping**

**Factor the following by grouping.**

1.  $5x - 5y - ay - ax$

2.  $x^2 - 3x + 2xy - 6y$

3.  $x^2 + 4x - 3ax - 12a$

4.  $4x^2 + 8x + 5xy + 10y$

5.  $3s^2 - 9s + 2st - 6t$

6.  $3x^2 - 6x + 2xy - 4y$

7.  $8x^2 - 4x + 6xy - 3y$

8.  $2a^2 - 5a + 6ab - 15b$

9.  $6x^2 - 10x + 9xy - 15y$

10.  $8x^2 + 4x + 6x + 3$

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**Answers:**

1.  $(5 + a)(x - y)$

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

3.  $(x + 4)(x - 3a)$

4.  $(x + 2)(4x + 5y)$

5.  $(s - 3)(3s + 2t)$

6.  $(x - 2)(3x + 2y)$

7.  $(4x + 3y)(2x - 1)$

8.  $(2a - 5)(a + 3b)$

9.  $(2x + 3y)(3x - 5)$

10.  $(4x + 3)(2x + 1)$