

# DISTRIBUTIVITY

LAST NAME	FIRST NAME	DATE
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**1** (10 points). Simplify each expression by removing parentheses and/or combining similar terms. Show all algebraic work.

(a)  $(7x + 5y - 4) - (3y - 7x + 1) =$

(b)  $(x^2 - 6x) - (x - 3) + (-2x^2 - 2) =$

(c)  $5(2x^2 - 3x - 1) =$

(d)  $4(x - 5) - 3(2 - x) =$

(e)  $(x + 2)(x - 2) =$

$$(f) (x - 5)(x - 5) =$$

$$(g) (2x - 5)(3x - 7) =$$

$$(h) (x + 4)^2 - (x - 3)^2 =$$

$$(i) (a + 3)(a - 3)(a^2 + 9) =$$

$$(j) (a + b - 6)(a - b + 7) =$$

2 (5 points). Factor out the greatest common factor in each expression:

(a)  $10x + 24 =$

(b)  $5t^2 + t =$

(c)  $-10y^2 - 5y^3 =$

(d)  $20a^2b^2 + 15ab =$

(e)  $3x^6y^2 + 3x^5y^7 =$

**3** (4 points). Simplify each expression by removing parentheses and/or combining similar terms. Show all algebraic work.

(a)  $(c - d)^3 =$

(b)  $(x - 1)(x^6 + x^5 + x^4 + x^3 + x^2 + x + 1) =$

$$(c) (2 - 3y)^4 =$$

$$(d) (x^3 - 2x^2 + 3x + 4)(4x^3 + 3x^2 - 2x + 1) =$$