

Name : \_\_\_\_\_

## Simplify: Multi-variable Expressions

MS2

Simplify each expression.

1)  $-4ab + 3b(-a - 4a + 5c) - 4bc$

2)  $\frac{1}{4}(16p^3q^5 + 32p^2q) + (7p^2q - 9p^3q^5)$

3)  $(2m^2 + 3mn + 4n^2) - (m^2 - 2mn + 3n^2) + (5xy - y - 5xy + 2x)$

5)  $5u^4 + 3(3v^2 - 2w^3) - (4d^2) - (b^3 - 4c^2d)$

7)  $q^2r^3 - 3qr + 4c^2d - 6y - 4z - 2y$

9)  $s^4 + t^2u^3 + 1 - (s^4 - t^2u^3 + tu + 2)$

10)  $\frac{1}{4}(8x^2y + 4xy) + \frac{2}{5}(10xy - 25x^2y)$

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**Answer key**

**Simplify: Multi-variable Expressions**

MS2

Simplify each expression.

1)  $-4ab + 3b(-a - 4a + 5c) - 4bc$

**$-19ab + 11bc$**

2)  $\frac{1}{4}(16p^3q^5 + 32p^2q) + (7p^2q - 9p^3q^5)$

**$15p^2q - 5p^3q^5$**

3)  $(2m^2 + 3mn + 4n^2) + (m^2 - 2mn - 3n^2) - (xy - y - 5xy + 2x)$

**$2m^2 + 4mn +$**

5)  $5u^4 + 3(3v^2 - 2w^3) - (d^2) - (b^3 - 4c^2d)$

**$-4u^4 + 3v^2 - 2$**

7)  $q^2r^3 - 3qr + 4c$   $- 6y - 4z - 2y$

**$2q^2r^3 + 4qr + 3qr$**

**$27z + 40y$**

9)  $s^4 + t^2u^3 + 1 - (s^4 - t^2u^3 + tu + 2)$

**$2t^2u^3 - tu - 1$**

10)  $\frac{1}{4}(8x^2y + 4xy) + \frac{2}{5}(10xy - 25x^2y)$

**$5xy - 8x^2y$**

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