

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

## Simplify: Multi-variable Expressions

MS4

Simplify each expression.

1)  $3pq^4 + 9pqr - (5pq^4 - 12 + 15)$

2)  $s - (t - u) + 4(s + t - u) - 9$

3)  $(x^5 - 3y^2z + 4y^2z) - (x^5 - 5y^2z)$

4)  $1/7k^2 + 7k^2 - 3bc^2 - bc$

5)  $7m - 2(2m - 4)$

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$u^3v^2 + 4(uv^3 - u^3v^2)$

7)  $\frac{3}{2}(2yz + 2(yz -$

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$c + 2d) + 16$

9)  $-9uv + 2v(-u + 4w^5 - 3u) - 6vw^5$

10)  $\frac{2}{5}(5x^2 + 15xy) - \frac{1}{4}(8x^2 - 4xy + 12)$

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**Answer key**

MS4

**Simplify: Multi-variable Expressions**

Simplify each expression.

1)  $3pq^4 + 9pqr - (5pq^4 - 12 + 15)$

**$-2pq^4 + 9pqr - 3$**

2)  $s - (t - u) + 4(s + t - u) - 9$

**$5s + 3t - 3u - 9$**

3)  $(x^5 - 3y^2z + 4y^2z) - (x^5 - 3y^2z) - 3bc^2 - bc$

**$2y^2z + 4yz^2$**

5)  $7m - 2(2m - 4)$

**$m + 10n$**

7)  $\frac{3}{2}(2yz + 2(yz - c + 2d)) + 16$

**$12yz - 12y^2$**

**$4c - 4d + 13$**

9)  $-9uv + 2v(-u + 4w^5 - 3u) - 6vw^5$

**$-17uv + 2vw^5$**

10)  $\frac{2}{5}(5x^2 + 15xy) - \frac{1}{4}(8x^2 - 4xy + 12)$

**$7xy - 3$**

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