

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

## Factoring Polynomials

Sheet 1

Factorize each polynomial by grouping.

1)  $pq + 2q^2 - 7p - 14q$

2)  $6a^4 - 3a^3 + 4a^2 - 2a$

3)  $s^9 - 2s^6 - 16s^3 + 3$

$y + 2x^3y + 3x + 6$

5)  $g^3h^3 - 5g^2h - 4gh$

$- 6cd$

7)  $m^2n - 5m^2 - 9mr$

$5$

9)  $18v^8 + 6v^7 + 9v^3 + 3v^2$

10)  $2(n + 1)^3 - 12(n + 1)^2 + 3(n + 1) - 18$

# PREVIEW

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**Factoring Polynomials**

Factorize each polynomial by grouping.

1)  $pq + 2q^2 - 7p - 14q$

$(q - 7)(p + 2q)$

2)  $6a^4 - 3a^3 + 4a^2 - 2a$

$a(2a - 1)(3a^2 + 2)$

3)  $s^9 - 2s^6 - 16s^3 + 32$

$(s^3 - 4)(s^3 + 4)(s^3 + 8)$

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

$(y + 3)$

5)  $g^3h^3 - 5g^2h - 4gh^2 + 20$

$(g^2h - 4)(gh^2 - 5)$

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$- 6cd$

7)  $m^2n - 5m^2 - 9mn + 45$

$(m - 8)(m - 1)(n - 5)$

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$5$

$(q + 5)(r - 5)$

9)  $18v^8 + 6v^7 + 9v^3 + 3v^2$

$3v^2(2v^5 + 1)(3v + 1)$

10)  $2(n + 1)^3 - 12(n + 1)^2 + 3(n + 1) - 18$

$(n - 5)(2n^2 + 4n + 5)$