

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

## Factoring Polynomials

Sheet 3

Factorize each polynomial by grouping.

1)  $4r^8 + 12r^6 + 16r^2 + 48$

2)  $40u^5 - 10u^4 + 28u^3 - 7u^2$

3)  $42t^3 - 14t^2 + 51t$

$4p + 49$

5)  $(m - 2)^3 - 4(m - 2)$

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$r - 9s$

7)  $u^2vw + uv^2 + uw^2$

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$38$

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9)  $9ab - 18a - 14bc + 28c$

10)  $g^2h - 2g^2 - 8gh + 16g + 15h - 30$

**Factoring Polynomials**

Factorize each polynomial by grouping.

1)  $4r^8 + 12r^6 + 16r^2 + 48$

$4(r^2 + 3)(r^6 + 4)$

2)  $40u^5 - 10u^4 + 28u^3 - 7u^2$

$u^2(10u^2 + 7)(4u - 1)$

3)  $42t^3 - 14t^2 + 51t$

$(3t - 1)(14t^2 + 17t)$

$4p + 49$

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5)  $(m - 2)^3 - 4(m - 2)$

$(m^2 - 4m + 19)(m - 2)$

$r - 9s$

$(3r + s)$

7)  $u^2vw + uv^2 + uw^2$

$(uv + w)(uw + v)$

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$(x + 2)(y - 19)$

9)  $9ab - 18a - 14bc + 28c$

$(b - 2)(9a - 14c)$

10)  $g^2h - 2g^2 - 8gh + 16g + 15h - 30$

$(g - 5)(g - 3)(h - 2)$