

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

# Factoring by Grouping Worksheet

Factor each expression.

①  $3x^3 - 18x^2 + 5x - 30$

②  $40xy + 35x - 8y^2 - 7y$

③  $24b^3 - 96b^2 - 14b + 56$

④  $16x^2c + 8xyd - 16x^2d - 8xyc$

⑤  $21xy - 12b^2 + 14xb - 18by$     ⑥  $56x^3 + 64x^2 + 70x + 80$

⑦  $7m^2z + 28m^2c - 8nz - 32nc$     ⑧  $x^2y - 3x^2 - 8y + 24$

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## Answers

①  $3x^3 - 18x^2 + 5x - 30$

②  $40xy + 35x - 8y^2 - 7y$

$(3x^2 + 5)(x - 6)$

$(5x - y)(8y + 7)$

③  $24b^3 - 96b^2 - 14b + 56$

④  $16x^2c + 8xyd - 16x^2d - 8xyc$

$2(12b^2 - 7)(b - 4)$

$8x(2x - y)(c - d)$

⑤  $21xy - 12b^2 + 14xb - 18by$    ⑥  $56x^3 + 64x^2 + 70x + 80$

$(7x - 6b)(3y + 2b)$

$2(4x^2 + 5)(7x + 8)$

⑦  $7m^2z + 28m^2c - 8nz - 32nc$    ⑧  $x^2y - 3x^2 - 8y + 24$

$(7m^2 - 8n)(z + 4c)$

$(y - 3)(x^2 - 8)$