

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

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

## Factoring By Grouping

Factor each completely. If non-factorable, write "Non-factorable".

1)  $2c^3 - 6c^2 - 4c + 12$

6)  $2x^3 - 10x^2 + 6x - 30$

2)  $24z^3 - 18z^2 + 28z - 21$

7)  $6w^3 + 12w^2 + 42w + 84$

3)  $w^3 - 5w^2 + 2w - 10$

8)  $30m^3 - 135m^2 - 42m + 189$

4)  $k^3 + 9k^2 + 3k + 27$

9)  $2h^3 - 10h^2 + 6h - 30$

5)  $72x^3 + 162x^2 - 72x - 162$

10)  $6m^3 + 6m^2 - 21m - 21$



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Factor each completely. If non-factorable, write "Non-factorable".

1)  $2c^3 - 6c^2 - 4c + 12$   
 $2(c^2 - 2)(c - 3)$

6)  $2x^3 - 10x^2 + 6x - 30$   
 $2(x^2 + 3)(x - 5)$

2)  $24z^3 - 18z^2 + 28z - 21$   
 $(6z^2 + 7)(4z - 3)$

7)  $6w^3 + 12w^2 + 42w + 84$   
 $6(w^2 + 7)(w + 2)$

3)  $w^3 - 5w^2 + 2w - 10$   
 $(w^2 + 2)(w - 5)$

8)  $30m^3 - 135m^2 - 42m + 189$   
 $3(5m^2 - 7)(2m - 9)$

4)  $k^3 + 9k^2 + 3k + 27$   
 $(k^2 + 3)(k + 9)$

9)  $2h^3 - 10h^2 + 6h - 30$   
 $2(h^2 + 3)(h - 5)$

5)  $72x^3 + 162x^2 - 72x - 162$   
 $18(x^2 - 1)(4x + 9)$

10)  $6m^3 + 6m^2 - 21m - 21$   
 $3(2m^2 - 7)(m + 1)$

