

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

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

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

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

## Factoring By Grouping

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

1)  $y^3 + 7y^2 + 5y + 35$

6)  $20s^3 - 25s^2 + 32s - 40$

2)  $3k^3 - 27k^2 + 21k - 189$

7)  $g^3 + 3g^2 + 6g + 18$

3)  $54b^3 + 54b^2 - 72b - 72$

8)  $36h^3 + 126h^2 + 48h + 168$

4)  $16n^3 + 20n^2 - 24n - 30$

9)  $y^3 - 4y^2 - 6y + 24$

5)  $y^3 + 5y^2 - 7y - 35$

10)  $r^3 - 7r^2 + 8r - 56$



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## Factoring By Grouping

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

1)  $y^3 + 7y^2 + 5y + 35$   
 $(y^2 + 5)(y + 7)$

6)  $20s^3 - 25s^2 + 32s - 40$   
 $(5s^2 + 8)(4s - 5)$

2)  $3k^3 - 27k^2 + 21k - 189$   
 $3(k^2 + 7)(k - 9)$

7)  $g^3 + 3g^2 + 6g + 18$   
 $(g^2 + 6)(g + 3)$

3)  $54b^3 + 54b^2 - 72b - 72$   
 $18(3b^2 - 4)(b + 1)$

8)  $36h^3 + 126h^2 + 48h + 168$   
 $6(3h^2 + 4)(2h + 7)$

4)  $16n^3 + 20n^2 - 24n - 30$   
 $2(2n^2 - 3)(4n + 5)$

9)  $y^3 - 4y^2 - 6y + 24$   
 $(y^2 - 6)(y - 4)$

5)  $y^3 + 5y^2 - 7y - 35$   
 $(y^2 - 7)(y + 5)$

10)  $r^3 - 7r^2 + 8r - 56$   
 $(r^2 + 8)(r - 7)$

