

Factoring Quadratic Expressions

Factor each completely.

1) $x^2 - 7x - 18$

2) $p^2 - 5p - 14$

3) $m^2 - 9m + 8$

4) $x^2 - 16x + 63$

5) $7x^2 - 31x - 20$

6) $7k^2 + 9k$

7) $7x^2 - 45x - 28$

8) $2b^2 + 17b + 21$

9) $5p^2 - p - 18$

10) $28n^4 + 16n^3 - 80n^2$

11) $3b^3 - 5b^2 + 2b$

12) $7x^2 - 32x - 60$

13) $30n^2b - 87nb + 30b$

14) $9r^2 - 5r - 10$

15) $9p^2r + 73pr + 70r$

16) $9x^2 + 7x - 56$

17) $4x^3 + 43x^2 + 30x$

18) $10m^2 + 89m - 9$

Critical thinking questions:

19) For what values of b is the expression factorable?
 $x^2 + bx + 12$

20) Name four values of b which make the expression factorable:
 $x^2 - 3x + b$

Name : _____

Score : _____

Teacher : _____

Date : _____

Factoring By Grouping

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

1) $48h^3 - 48h^2 - 48h + 48$

6) $x^3 - 9x^2 + 6x - 54$

2) $3w^3 - 6w^2 + 21w - 42$

7) $24k^3 - 96k^2 - 36k + 144$

3) $10x^3 - 45x^2 - 4x + 18$

8) $18c^3 + 30c^2 - 9c - 15$

4) $3q^3 - 15q^2 - 24q + 120$

9) $24y^3 - 30y^2 - 20y + 25$

5) $3m^3 + 12m^2 - 21m - 84$

10) $9s^3 + 24s^2 + 24s + 64$

