

Factoring- Day 1

Look for a GCF first. The first term should be positive. If the first term is negative factor out -1.

1. $3x^2 + 6x$ GCF: _____	2. $30y^3 - 5y^2$ GCF: _____
3. $-6x^3 - 4x^2 + 8$ GCF: _____	4. $-6x^2 + 15x + 11$ GCF: _____

If the middle term is missing check for **difference of squares DOS**.

Factor like this $a^2 - b^2 = (a + b)(a - b)$

5. $x^2 - 9$ Diff: _____ Sqrs.: _____ a= _____ b= _____	6. $4x^2 - y^2$ Diff: _____ Sqrs.: _____ a= _____ b= _____
7. $x^2 + 9$ Diff: _____ Sqrs.: _____ a= _____ b= _____	8. $5x^2 - 12$ Diff: _____ Sqrs.: _____ a= _____ b= _____

GREAT SHORTCUT: If there are three terms and the number in front of x^2 is 1, factor mentally. **p = product of 1st & last** **s = sum (middle term)**

9. $x^2 + 15x + 36$

p= _____
s= _____

10. $x^2 - 9x + 14$

p= _____
s= _____

11. $x^2 + 9x - 22$

p= _____
s= _____

12. $x^2 - 5x - 14$

p= _____
s= _____

Factor each of the following COMPLETELY. GCF then shortcut.

13. $3x^2 + 24x + 45$

GCF: _____
p= _____
s= _____

14. $-5x^3 + 50x^2 - 120x$

GCF: _____
p= _____
s= _____

15. $125x^2 - 80$

GCF: _____
p= _____
s= _____

16. $-12x^3 - 3x^2$

GCF: _____
p= _____
s= _____