

Name: _____ Date: _____ Period: _____

NOTES: FACTOR A DIFFERENCE OF SQUARES

Do you remember how to Multiply Binomials?

1. $(2x + 3)(2x - 3)$

2. $(3x + 5)(3x - 5)$

3. $(5a^2 + 4b)(5a^2 - 4b)$

Factor a Difference of Squares

$(a^2 - b^2)$ factors as _____

The key to factoring a difference of squares is _____ you have a difference of squares.

1. $x^2 - 9$

2. $a^2 - 36$

3. $b^2 - 4$

4. $4x^2 - 25$

5. $9y^2 - 1$

6. $16x^2 - 81$

7. $100 - 49b^2$

8. $25x^2 - 9$

9. $4x^2 + 81$

10. $4x^2 - 121y^2$

11. $36a^2 - 25b^2$

12. $64x^4 - 1y^2$

Put it all together! Factor out a GCF first, then factor a difference of squares, if possible.

13. $32x^2 - 8y^2$

14. $72x^2 - 50$

15. $100a^2 - 144$

16. $27x^3 - 12x$

17. $200y^5 - 128y$

18. $162x^4 - 2x^2y^2$

**REMEMBER YOUR
PERFECT SQUARES!**

x	x ²
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100
11	121
12	144
13	169
14	196
15	225
16	256
17	289
18	324
19	361
20	400
21	441
22	484
23	529
24	576
25	625

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A. FACTOR A DIFFERENCE OF SQUARES

Why was the baby blueberry crying?

Factor each polynomial by factoring a difference of squares. Factor out a GCF first, if necessary. Write the letter of the correct answer in the box containing the question number.

1. $x^2 - 100$	2. $x^2 - 64$
3. $9x^2 - 25$	4. $36x^2 - 49$
5. $144x^2 - 169$	6. $81x^2 + 4$
7. $9x^2 - 1$	8. $2x^2 - 32$
9. $100x^2 - 36$	10. $25x^4 - 81$
11. $48x^3 - 27x$	12. $147x^2 - 3$
13. $48x^4 - 75x^2$	14. $36x^4 - 100$
15. $12x^2 - 27y^2$	16. $x^4 - x^2$

Answers!

P	$4(3x^2 + 5)(3x^2 - 5)$
A	$(x - 8)(x + 8)$
E	$(x - 10)(x + 10)$
I	$x^2(x + 1)(x - 1)$
D	$5x(2x - 1)(2x + 1)$
J	$3(2x + 3y)(2x - 3y)$
B	$(12x - 13)(12x + 13)$
C	$(6x + 7)(6x - 7)$
W	$3(7x + 1)(7x - 1)$
	$3x^2(4x + 5)(4x - 5)$
R	$3x(4x + 3)(4x - 3)$
U	$(3x - 1)(3x + 1)$
F	$3x^2(3x - 2)(3x + 2)$
T	$(3x + 5)(3x - 5)$
N	$(5x^2 + 9)(5x^2 - 9)$
G	$2(4x + 7)(4x - 7)$
M	$4(5x + 3)(5x - 3)$
S	$2(x + 4)(x - 4)$
L	$7x^2(5x + 2)(5x - 2)$
H	prime

5	1	4	2	7	8	1	13	6	1	11	13	14	2	11	1	10	3	8
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12	1	11	1	13	16	10	13	2	13	15	2	9	!
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