

Ch. 4 Integrated Math 2

NAME:

FACTORING BINOMIALS AND TRINOMIALS

Clearly show all work in an organized manner!!!!!!!!!!

Factor the binomial using a generic rectangle and the GCF (Greatest Common Factor.)

1. $3x^2 + 12x$

Factor each binomial using the GCF (Greatest Common Factor.) Check your work by applying the distributive property. *You do not have to use a generic rectangle!*

2. $20x^2 + 8x = \underline{\hspace{1cm}}(\hspace{1cm})$

3. $-2x^2 - 12 = \underline{\hspace{1cm}}(\hspace{1cm})$

4. $5xy + 15x = \underline{\hspace{1cm}}(\hspace{1cm})$

5. $-21xy - 6y = \underline{\hspace{1cm}}(\hspace{1cm})$

6. $20y^2 - 50 = \underline{\hspace{1cm}}(\hspace{1cm})$

7. $-6x^2 + 30x = \underline{\hspace{1cm}}(\hspace{1cm})$

CHECK ANSWERS #1-7:

-6x	5x + 2
3x	x - 5
4x	x + 4
5x	7x + 2
-3y	$x^2 + 6$
-2	$2y^2 - 5$
10	y + 3

Factor each binomial using a generic rectangle and diamond problem.

8. $4x^2 - 25$
HINT → rewrite first: $4x^2 + \underline{\hspace{1cm}} - 25$

9. $9x^2 - 1$
HINT → rewrite first:

Factor each binomial using the pattern found above (called a “difference of squares.”) *You do not have to use a generic rectangle and diamond problem!*

10. $36x^2 - 25 = (\hspace{1cm})(\hspace{1cm})$

11. $81x^2 - 64 = (\hspace{1cm})(\hspace{1cm})$

12. $x^2 - 36 = (\hspace{1cm})(\hspace{1cm})$

13. $16x^2 - 49 = (\hspace{1cm})(\hspace{1cm})$

14. $100x^2 - 1 = (\hspace{1cm})(\hspace{1cm})$

15. $x^2 - 144 = (\hspace{1cm})(\hspace{1cm})$

16. $4x^2 - 121 = (\hspace{1cm})(\hspace{1cm})$

CHECK ANSWERS #8-16:

2x + 11	10x + 1	9x + 8
x + 6	x + 12	2x + 5
4x + 7	6x + 5	3x + 1
9x - 8	10x - 1	x - 6
x - 12	2x - 5	2x - 11
6x - 5	3x - 1	4x - 7

Factor each trinomial using a generic rectangle and diamond problem.

CAUTION: you may first have to rewrite the expression so it is in the correct order!!

17. $-5x - 2 + 12x^2$
rewrite?

18. $90 + x^2 - 19x$
rewrite?

19. $2x^2 - 25 + 5x$
rewrite?

20. $15x^2 + x - 2$
rewrite?

CHECK ANSWERS #17-20:

x - 10	3x - 1	3x - 2	x - 9
2x - 5	x + 5	5x + 2	4x + 1

