

AC Algebra/Geometry A-Agenda 3A

Solving Quadratics

Wednesday, October 12

Factoring

Notes: Factoring Booklet

GCF

HW: GCF Puzzle WS and pages 2-3

Friday, October 21

Factoring

Go over HW / Practice

HW: Pages 18-19

Thursday, October 13

Factoring

Notes: Factoring Booklet

Trinomials $a=1$

HW: pages 4-5

Monday, October 24

Factoring QUIZ

Friday, October 14

Factoring

Notes: Factoring Booklets

Difference of Squares

HW: pages 6-7

Tuesday, October 25

Solving Quadratic Equations (Factoring)

Notes: Solving by Factoring

HW: Solving by Factoring WS

Pages 20-23

Monday, October 17

Factoring

Notes: Factoring Booklet

Trinomials a not equal to 1

HW: pages 8-10

Wednesday, October 26

Solving Quadratic Equations (Square Roots)

Notes: Solving using Square Roots

HW: Quadratic Equations with Square

Roots

Pages 24-25

Tuesday, October 18

Factoring

Notes: Factoring Booklet

Trinomials a not equal to 1

HW: pages 11-12

Thursday, October 27

Solving Quadratic Equations (Square Roots)

More Practice

HW: Solving Quadratics by Factoring &
using Square Roots WS 1

Page 26

Wednesday, October 19

Factoring

Notes: Factoring Booklet

Grouping

HW: pages 13-15

Friday, October 28

Completing the Square Notes

HW: Completing the Square WS 1

Pages 27-29

Thursday, October 20

Factoring

Go over HW / Practice

HW: Pages 16-17

Monday, October 31

Completing the Square-more notes

HW: Solve by Completing the Square WS
2

Pages 30-31

AC Algebra/Geometry A-Agenda 3A

Tuesday, November 1

The Quadratic Formula and the Discriminant

HW: Discriminant Worksheet, look for video on quadratic formula

Pages 32-34

Wednesday, November 2

Solve Using the Quadratic Formula

HW: Solving Using the Quadratic Formula

Pages 35-36

Thursday, November 3

Solving Quadratics QUIZ

Friday, November 4

Extra day as needed-Station Reviews?
Whiteboards? Board-Races?

Monday, November 7

Solving Quadratic Equations

Review for test

HW: Solving Quadratics by Factoring & using Square Roots WS 2

Page 37

Tuesday, November 8

Teacher Work Day

Review for your test!!

Page 38-39

Wednesday, November 9

Solving Quadratic Equations

Test Unit 3A

Greatest Common Factor of Polynomials

~~$$4x^2y + 8x^3y =$$

$$2xy(2x + 4x^2)$$~~



$$4x^2y + 8x^3y =$$

$$4x^2y(1 + 2x)$$

Tip

When factoring, find the largest possible factor common to all terms.

Find the missing factor. Shade the answers to discover a symbolic expression for energy.

1. $6x^2 + 9x = (\quad)(2x + 3)$

2. $25x^3 - 10x^2 = (\quad)(5x - 2)$

3. $8xy + 2y = (\quad)(4x + 1)$

4. $14x + 21y = (\quad)(2x + 3y)$

5. $6x^2 - 12x^3 = (\quad)(1 - 2x)$

6. $3x^3 + x^2y = (\quad)(3x + y)$

7. $4xy^2 - 6x^2y = (\quad)(2y - 3x)$

8. $10x^2 + 20y^2 = (\quad)(x^2 + 2y^2)$

9. $8x^2 + 7x^2y = (\quad)(3 + 7y)$

10. $2x^6 - 4x^5 = (\quad)(x - 2)$

11. $3y^3 + 4xy^2 = (\quad)(3y + 4x)$

12. $5x^4 + 5x^3 = (\quad)(x + 1)$

13. $8x^2y^3 + 10x^3y^2 = (\quad)(4y + 5x)$

14. $12x^2y + 9y^2 = (\quad)(4x^2 + 3y)$

15. $x^2y^3 - x^3y^2 = (\quad)(y - x)$

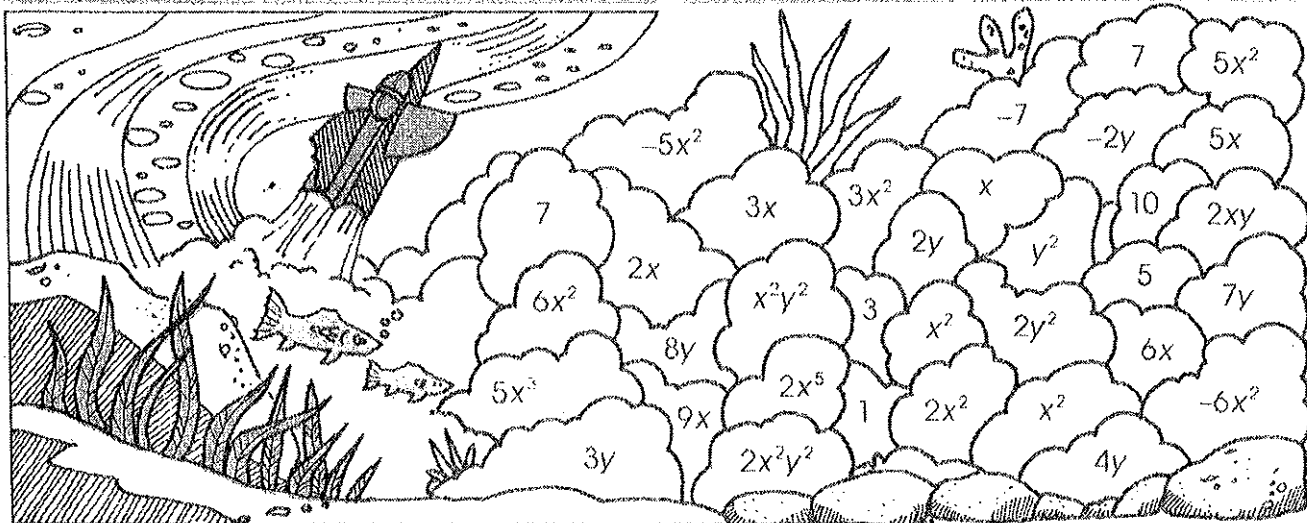
16. $4x^2 - 2x = (\quad)(2x - 1)$

17. $9x^2 - 4x = (\quad)(9x - 4)$

18. $20x - 5x^2 = (\quad)(4 - x)$

19. $14x^2y - 7 = (\quad)(2x^2y - 1)$

20. $6x^3 - 8x^2 = (\quad)(3x - 4)$



Name _____

Factoring

Factoring Monomials From Polynomials

To factor a polynomial, write the polynomial as a product of other polynomials.

For example, $4x^2 - 8x$ can be written as $4x(x - 8)$.

$4x$ is the **Greatest Common Factor (GCF)** of $4x^2$ and $8x$.

$4x$ is a **Common Monomial Factor** of the terms of the binomial.

$x - 8$ is a **Binomial Factor** of $4x^2 - 8x$.

Factor.

1. $9a^2 - 18a$

11. $x^3 - 5x^2$

2. $16a^5b^3 + 32a^4b$

12. $9c - 3c^2$

3. $x^2 + x^4 + x^3$

13. $5x^4 - 12x^2$

4. $3x^5 + 4x^4 - 5x^2$

14. $x^2 + x$

5. $2x^3 - x$

15. $6x^2 - 12x^3 - 18x^4$

6. $3a^5 - a^3$

16. $x^3y^4 + x^2y^2$

7. $32b^2 + 16b$

17. $18b - 9b^2$

8. $5x^3 - 7x^2$

18. $2x^3 + 6x^2$

9. $3x^2 - 10x^3$

19. $12x^3 + 4x^2$

10. $a^{6n} + a^{3n}$

20. $x^5 + 3x^2$

Mathematics 1
Day 2 Practice

Find the GCF.

1. $9xy - 6$

2. $8x^2 + 4x$

3. $16xy + 12yz$

4. $14mn - 21np$

5. $3x^3 - 9xy$

6. $x^2y - xy^2$

7. $5xy - 15xz$

8. $9a - 6b + 3$

9. $4x - 8y + 16$

10. $15x^2 - 9x$

11. $6x^2 + 12$

12. $4x^3 + 8x^2$

13. $12x^3 - 6x^2 + 24x$

14. $10y^3 - 5y^2 + 15y$

15. $\frac{1}{2}yz - \frac{1}{2}xy$

16. $14x^2 + 21xz$

17. $24x^4 - 18x^3 + 12x^2$

18. $25j^3k - 15j^2k^2 + 5jk^3$

19. $-40x^9y^6 - 16x^9y^5$

20. $-18w^5 + 27w^3$

Mathematics 1

Day 4 Practice

Factor by Trial and Error

1. $x^2 - x + 12$

2. $a^2 + 14a + 40$

3. $x^2 - 10x - 24$

4. $x^2 - 13x + 36$

5. $x^2 - 5x + 6$

6. $a^2 - a - 20$

7. $x^2 + 16x + 55$

8. $x^2 - 14x + 45$

9. $x^2 - 3x - 40$

10. $x^2 - 11x - 60$

11. $x^2 + 17x + 72$

12. $a^2 - 9a - 22$

Factoring Trinomials (a = 1)

Factor each completely.

1) $b^2 + 8b + 7$

2) $n^2 - 11n + 10$

3) $m^2 + m - 90$

4) $n^2 + 4n - 12$

5) $n^2 - 10n + 9$

6) $b^2 + 16b + 64$

7) $m^2 + 2m - 24$

8) $x^2 - 4x + 24$

9) $k^2 - 13k + 40$

10) $a^2 + 11a + 18$

11) $n^2 - n - 56$

12) $n^2 - 5n + 6$

13) $b^2 - 6b + 8$

14) $n^2 + 6n + 8$

15) $2n^2 + 6n - 108$

16) $5n^2 + 10n + 20$

17) $2k^2 + 22k + 60$

18) $a^2 - a - 90$

19) $p^2 + 11p + 10$

20) $5v^2 - 30v + 40$

21) $2p^2 + 2p - 4$

22) $4v^2 - 4v - 8$

23) $x^2 - 15x + 50$

24) $v^2 - 7v + 10$

25) $p^2 + 3p - 18$

26) $6v^2 + 66v + 60$



Mathematics I
Day 5 Practice

Difference of Two Squares Practice

Factor completely if possible, if not, write "not possible". Take out GCF first if necessary!

1. $(s^2 - 1)$

2. $(2y^2 - 8)$

3. $(3x^2 + 9)$

4. $(4x^2 - 1)$

5. $(x^2 - y^2)$

6. $(16k^2 - 4)$

7. $(x^4 - x^2)$

8. $(x^2 - 20)$

9. $(49x^{10} - 1)$

10. $(x - 81)$

NAME _____

DATE _____

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Practice Worksheet

Factoring Differences of Squares

Factoring each polynomial, if possible. If the polynomial cannot be factored, write prime.

1. $a^2 - 4$

2. $y^2 - 1$

3. $x^2 - 64$

4. $1 - 49c^2$

5. $-16 + p^2$

6. $100r^2 - 9$

7. $36 - n^2$

8. $144 - 9f^2$

9. $-r^2s^2 + 81$

10. $5c^2 - 4d^2$

11. $4g^2 - 81h^2$

12. $36j^2 - 49m^2$

13. $8n^2 - 72p^2$

14. $20q^2 - 5r^2$

15. $s^4t^2 - 4t^2$

16. $36n^2 - 25$

17. $49 - 100k^2$

18. $32 - 8n^2$

19. $t^2 - 64u^2$

20. $121r^2 - 1$

21. $2yz^4 - 50yz^2$

22. $25v^5x - 9v^3x$

23. $4t^2 - s^4t^2$

24. $200y^2z^5 - 242y^4z^3$

25. $75x^2 - 147y^2$

26. $32h^2 - 18l^2$

27. $x^2 + y^2$

28. $x^2y^2 - z^2$

29. $-4c^2 + 25$

30. $j^2 - 33k^2$

31. $100b^4 - 169$

32. $24e^2 - 54f^4$

33. $32a^2 - 50b^2$

34. $-98r^2 + 8t^2$

35. $x^{12} - 4x^2$

36. $3l^2 - \frac{1}{3}$

37. $\frac{1}{4}u^2 - \frac{9}{4}$

38. $9t^6m^4 - 196t^8m^4$

39. $5v^2 - \frac{5}{4}$

40. $64v^7x^3 - 121vx^7$

41. $2z^2 - 196c^2$

42. $85p^2 - 17q^2$

Student Name: _____

Score: _____

Factorize the Trinomials

Problems

Work Space

$$2x^2 - 3x - 5$$

Answer:

$$5x^2 - 14x - 3$$

Answer:

$$3x^2 - 7x + 2$$

Answer:

$$4x^2 + 4x - 3$$

Answer:

$$15x^2 - 14x - 8$$

Answer:

Factoring Trinomials ($a > 1$)

Factor each completely.

1) $3p^2 - 2p - 5$

2) $2n^2 + 3n - 9$

3) $3n^2 - 8n + 4$

4) $5n^2 + 19n + 12$

5) $2v^2 + 11v + 5$

6) $2n^2 + 5n + 2$

7) $7a^2 + 53a + 28$

8) $9k^2 + 66k + 21$

$$9) 15n^2 - 27n - 6$$

$$10) 5x^2 - 18x + 9$$

$$11) 4n^2 - 15n - 25$$

$$12) 4x^2 - 35x + 49$$

$$13) 4n^2 - 17n + 4$$

$$14) 6x^2 + 7x - 49$$

$$15) 6x^2 + 37x + 6$$

$$16) -6a^2 - 25a - 25$$

$$17) 6n^2 + 5n - 6$$

$$18) 16b^2 + 60b - 100$$

Factoring

Name _____

Trinomials with a Leading Coefficient Other Than One

Period _____ Date _____

Factor each polynomial completely. If the polynomial cannot be factored, say it is prime.

1. $2x^2 + 7x + 6$

2. $3a^2 - 8a + 4$

3. $2m^2 - 3m - 14$

4. $3k^2 - k - 4$

5. $2g^2 - 7g - 4$

6. $6x^2 - 17x + 5$

7. $8x^2 - 10x + 3$

8. $3x^2 + 10x - 25$

9. $36a^2 + 12a + 1$

10. $3x^2 - 14x - 24$

11. $12y^2 + 7y + 1$

12. $2x^2 + 17x + 30$

13. $28y^2 - 18y + 2$

14. $4a^2 - 20a + 25$

15. $3m^2 - 13m - 30$

16. $2x^2 - 11x - 40$

17. $2x^2 + 23x + 45$

18. $3t^2 + 10t - 48$

19. $2x^2 - 25x + 50$

20. $3b^2 + 8b - 35$

Name: _____ Date: _____

GCF & Factoring Trinomials with Last Term Positive**⊙ Factoring Trinomials:** Writing the polynomial as a product of 2 binomials.

- Check for GCF 1st. Divide out the GCF of each term if one exists.
- When factoring $ax^2 + bx + c$, first find factors of a and c .
- Check the products of the inner and outer terms to see if the sum is b .

Factor each trinomial completely.

1. $x^2 + 9x + 14$

2. $2x^2 - 5x + 3$

3. $5x^2 + 11x + 2$

4. $6x^2 - 11x + 3$

5. $3x^2 - 10x + 3$

6. $2x^2 - 7x + 5$

7. $3x^2 - 8x + 4$

8. $2x^2 - 11x + 9$

9. $14x^2 - 32x + 18$

10. $2x^2 - 17x + 35$

11. $6x^2 - 21x + 15$

12. $4x^2 - 15x + 9$

13. $3x^2 + 17x + 20$

14. $7x^2 - 45x + 18$

15. $4x^2 - 22x + 10$

Factoring By Grouping

Factor each completely.

1) $8r^3 - 64r^2 + r - 8$

2) $12p^3 - 21p^2 + 28p - 49$

3) $12x^3 + 2x^2 - 30x - 5$

4) $6v^3 - 16v^2 + 21v - 56$

5) $63n^3 + 54n^2 - 105n - 90$

6) $21k^3 - 84k^2 + 15k - 60$

7) $25v^3 + 5v^2 + 30v + 6$

8) $105n^3 + 175n^2 - 75n - 125$

9) $96n^3 - 84n^2 + 112n - 98$

10) $28v^3 + 16v^2 - 21v - 12$

11) $4v^3 - 12v^2 - 5v + 15$

12) $49x^3 - 35x^2 + 56x - 40$

13) $24p^3 + 15p^2 - 56p - 35$

14) $24r^3 - 64r^2 - 21r + 56$

$$15) 56xw + 49xk^2 - 24yw - 21yk^2$$

$$16) 42mc + 36md - 7n^2c - 6n^2d$$

$$17) 12x^2u + 3x^2v + 28yu + 7yv$$

$$18) 40ac^2 + 25ak^2 + 32bc^2 + 20bk^2$$

$$19) 12bc - 4bd - 15xc + 5xd$$

$$20) 16mn - 4m^2 + 28n - 7m$$

$$21) 56xy - 35x + 16ry - 10r$$

$$22) 21xy + 15x + 35ry + 25r$$

$$23) 5a^2z - 4a^2c + 15xz - 12xc$$

$$24) 4xy + 6 - x - 24y$$

$$25) 21xy - 12b^2 + 14xb - 18by$$

$$26) 9mz - 4nc + 3mc - 12nz$$

$$27) 28xy + 25 + 35x + 20y$$

$$28) 30uv + 30u + 36u^2 + 25v$$

Factoring WS 1

Name _____

Factor each of the following.

1. $y^2 - 5y$

2. $4a^2 + 2a$

3. $x^3 + 9x^2$

4. $3x^2 + 12$

5. $7y^3 + 14y^2$

6. $6x^2y^3 + 21xy^2$

7. $9x^3y^2 - 6x^2y^3 + 3x^3y^3$

8. $24x^3 + 36x^2 + 72x$

9. $x^2 - 16$

10. $9x^2 - 25y^2$

11. $4a^2 - 49$

12. $100y^2 - 81$

Factoring WS 2

Name _____

1. $x^2 + 16x + 64$

2. $m^2 + 5m + 6$

3. $a^2 - 3a - 18$

4. $x^2 + x - 42$

5. $5x^2 - 15$

6. $x^2 - 49$

7. $x^3 - 2x^2 + 3x - 6$

8. $2x^3 - 16x^2 + 8x - 64$

9. $3x^2 - 5x - 2$

10. $x^3y + 2x^2y$

11. $x^7 - 9x^5$

12. $t^2 - 7t + 12$

13. $x^3 + 2x^2 - 7x - 14$

14. $a^2 - 2a + 1$

15. $2x^2 - 13x - 45$

16. $5m^2 - 20$

17. $n^3 - 2n^2 + 4n - 8$

18. $a^2 - 3a - 18$

19. $2y^2 - 10y + 8$

20. $x^2 - 11x + 28$

21. $y^5 + 7y^2$

22. $9a^2 - 400$

23. $y^3 - y + 3y^2 - 3$

24. $6a^2b^3 - 14abc$

25. $x^6 - 9x^4$

26. $3a^2 - 10a + 3$

Extra Factoring WS 1

Name _____

Factor the expression.

1. $x^2 - x - 6$

16. $x^2 - 10x - 96$

2. $x^2 - 6x + 5$

17. $x^2 + 10x - 96$

3. $2x^6 + 8x^5 + 7x^4$

18. $18z^3 - 21z^2 + 30z - 35$

4. $x^2 + 5x + 6$

19. $x^2 + 4x - 45$

5. $x^2 - 6x - 7$

20. $x^2 + 9x - 36$

6. $x^2 + 10x - 11$

21. $12x^3 - 16x^2 + 3x - 4$

7. $x^2 + 4x - 5$

22. $x^2 + 11x - 80$

8. $x^2 - 4x - 5$

23. $7x^2 - 15x + 2$

9. $5x^5 - 80x$

24. $8x^2 - 6x + 1$

10. $x^3 - 3x^2 - 4x + 12$

25. $8x^2 - 11x + 3$

11. $8x^2 - 98$

26. $12x^2 - 8x + 1$

12. $x^2 - 2x - 63$

27. $9x^2 + 3x - 2$

13. $x^2 - 64$

28. $6x^2 + 11x - 2$

14. $8y^2 - 18y - 5$

29. $2x^2 + 4x - 6$

15. $20x^3 - 4x^2 - 72x$

30. $8x^2 + 7x - 1$

20
18

Extra Factoring WS 2

Name _____

Factor the expression.

1. $x^2 + 4x - 21$

14. $15x^2 - 14x + 3$

2. $x^4 - 81$

15. $15y^2 + 19y - 10$

3. $x^2 + 8x + 15$

16. $x^2 + 16x + 64$

4. $3x^3 + 25x^2 + 52x$

17. $2x^2 - 8$

5. $x^2 - 11xy + 28y^2$

18. $9x^2 - 1$

6. $x^2 - 10x + 24$

19. $4x^2 + 4x + 1$

7. $1 - 16y^4$

20. $9x^2 - 12x + 4$

8. $2x^2 - 5x - 3$

21. $m^4 + 8m^3 + 8m^2 + 64m$

9. $3x^2 - x - 2$

22. $6x^2 + 17x + 5$

10. $3x^2 + 7x + 2$

23. $4x^2 + 14x + 6$

11. $2x^2 + 5x + 3$

24. $6x^2 - 33x + 15$

12. $10x^2 - 3x - 1$

25. $45x^2 + 30x + 5$

13. $6x^2 - 13x + 2$

26. $12a^3b^2 - 6a^2b + 4a^2b^2 - 2ab$