Algebra Worksheet – Section 10.5 Name _____
Factoring Polynomials of the form Block ____
$x^2 + bx + c$

Factor

1. $x^2 + 3x + 2$
2. $x^2 - x - 2$
3. $x^2 + x - 6$
4. $a^2 + a - 12$
5. $a^2 - 2a - 35$
6. $b^2 + 8b + 16$
7. $b^2 + 7b - 8$
8. $y^2 - y - 6$
9. $x^2 - 4x - 45$
10. $y^2 - 8y + 15$
11. $p^2 + 12p + 27$
12. $b^2 + 9b + 20$
13. $b^2 + 3b - 40$
14. $a^2 - 15a + 36$
15. $c^2 + 11c + 18$
16. $x^2 + 21x + 100$

Solve each equation by factoring

17. $x^2 + 5x + 6 = 0$
18. $b^2 - b - 20 = 0$
19. $y^2 - y - 72 = 0$
20. $x^2 - 12x = -11$

Algebra Worksheet – Section 10.5 Name _____
Factoring Polynomials of the form Block ____
$x^2 + bx + c$ with GCFs

Factor Completely

1. $2x^2 + 6x + 4$

2. $4a^2 - 12a + 8$

3. $10a^2 + 10 - 20$

4. $7a^2 - 14a - 21$

5. $3y^2 - 15y + 18$

6. $a^3 - 5a^2 + 4a$

7. $x^4 - 15x^3 + 56x^2$

8. $b^4 - 3b^3 - 10b^2$

9. $2a^3 + 8a^2 - 64a$

10. $3a^3 - 9a^2 - 54a$

11. $9p^2 - 54p + 72$

12. $4y^3 - 4y^2 - 24y$

13. $3x^4 - 21x^3 + 10x^2$

14. $5x^4 - 10x^3 - 75x^2$

Solve each equation by factoring

15. $3x^2 + 15x + 18 = 0$

16. $2x^2 + 16x + 24 = 0$

17. $5x^2 - 35x + 60 = 0$

18. $x^3 + 11x^2 - 12x = 0$

19. $2y^2 + 10y = 28$

20. $6y^2 + 36 = 30y$

Algebra Worksheet – Section 10.6 Name _____
Factoring Polynomials of the form Block ____

$$ax^2 + bx + c$$

Factor

1. $2x^2 + 3x + 1$

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

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

4. $3b^2 - 13b + 4$

5. $2t^2 - t - 10$

6. $3p^2 - 16p + 5$

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

8. $2t^2 + 5t - 12$

9. $5y^2 - 22y + 8$

10. $3p^2 + 22p - 16$

11. $6a^2 + 7a - 24$

12. $15x^2 - 19x + 6$

13. $15a^2 + 26a - 21$

14. $14p^2 - 41p + 15$

Solve each equation by factoring

15. $5x^2 + 6x + 1 = 0$

16. $3x^2 + 5x - 2 = 0$

17. $6y^2 - 11y + 4 = 0$

18. $2z^2 - 27z - 14 = 0$

19. $4x^2 - 3x = 1$

20. $6x^2 + 15 = 19x$

Algebra Worksheet – Section 10.6
Factoring Polynomials of the form $ax^2 + bx + c$ with GCFs

Name _____
Block ____

Factor

1. $4x^2 + 6x + 2$

2. $12x^2 + 33x - 9$

3. $30y^2 + 10y - 20$

4. $18a^2 - 24a + 6$

5. $14a^2 - 21a + 7$

6. $7x^2 + 50x + 7$

7. $2x^3 - 11x^2 + 5x$

8. $3a^3 - 16a^2 + 16a$

9. $6x^3 - 11x^2 - 10x$

10. $6p^3 + 5p^2 + p$

11. $3x^3 + 3x^2 - 36x$

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

13. $p^4 + 9p^3 - 36p^2$

14. $6p^4 - 32p^3 + 5p^2$

Solve each equation by factoring

15. $15y^2 - 50y + 35 = 0$

16. $8x^2 + 4x - 4 = 0$

17. $2x^3 - 3x^2 - 5x = 0$

18. $10x^3 + 5x^2 - 5x = 0$

19. $-6 = 4y^2 - 11y$

20. $-14a^2 = 12a^3 - 48a$

Algebra Worksheet – Section 10.7
Special Factoring

Name _____
Block ____

Factor Completely

1. $x^2 - 25$

2. $x^2 - 100$

3. $9x^2 - 1$

4. $64x^2 - 9$

5. $36y^2 + 49$

6. $x^2 - 6x + 9$

7. $y^2 + 14y + 49$

8. $4a^2 - 20a + 25$

9. $2x^2 - 72$

10. $4x^2 - 16$

11. $3x^2 + 18x - 27$

12. $5x^2 + 10x + 5$

13. $9 - x^2$

14. $75 - 3x^2$

Solve each equation by factoring

15. $x^2 - 64 = 0$

16. $16x^2 - 9 = 0$

17. $x^2 - 12x + 36 = 0$

18. $4b^2 + 28b + 49 = 0$

19. $50x^2 = 98x$

20. $27a^3 + 18a^2 = -3a$

Algebra Worksheet – Chapter 10 Review
Combining Methods of Factoring

Name _____
Block ____

Factor Completely

1. $x^2 + 2x - 15$

2. $12x^2 - 11x + 2$

3. $100x^2 - 100x - 600$

4. $x^2 - 18x + 81$

5. $8x^2 + 44x + 60$

6. $9x^2 - 12x + 4$

7. $6x^4 - 10x^3 - 6x^2$

8. $3x^3 - 6x^2 - 72x$

9. $x^2 - 81$

10. $18a^2 - 50$

11. $25a^3 + 20a^2 + 3a$

12. $c^2 - 13c + 40$

13. $5a^2 + 10a + 5$

14. $6a^2 - a - 15$

15. $9x^2 - 4$

16. $16x^5 - 44x^4 + 30x^3$

Algebra Worksheet – Chapter 10 Review – page 2
Combining Methods of Factoring

Solve each equation

17. $x^2 + 5x - 6 = 0$

18. $60x^2 - 130x + 60 = 0$

19. $25x^2 - 1 = 0$

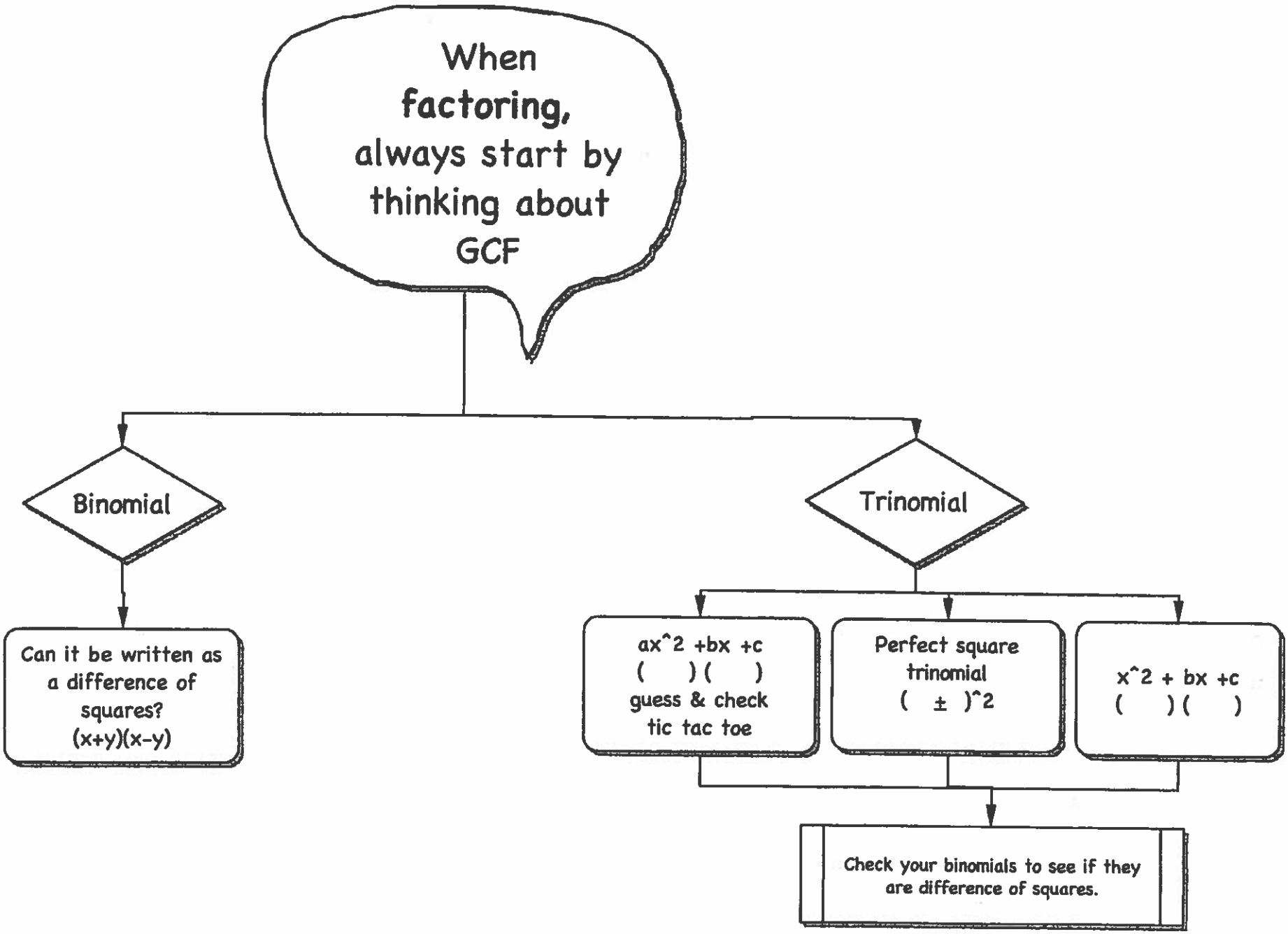
20. $3y^2 - y - 4 = 0$

21. $x^3 + 5x^2 + 6x = 0$

22. $4y^2 - 12y + 9 = 0$

23. $3x^2 + x = 10$

24. $-2x = 2x^2 - 24$


When factoring, always start by thinking about GCF
Binomial
Can it be written as a difference of squares? (x+y)(x-y)
Trinomial
ax^2 +bx +c
( )( )
guess & check
tic tac toe
Perfect square trinomial
(±)^2
x^2 + bx +c
( )( )
Check your binomials to see if they are difference of squares.