

## Factor Table 4A

### Variables

Product Rules: Multiply Down.  
 1 Negative key = negative  
 2 Negative keys = positive  
 Add exponents

Sum Rules: Combine (Add or Subtract) up.  
 Match the sign of the larger key number(absolute value)  
 Same signs - Add; Different signs - Subtract  
 Keep the same exponent

	1y	Sum	-10x		-12x		1x	7y	1w	-11x
1.		Key	2.	3.		4.		5.	6.	7.
		Key								
	-12y <sup>2</sup>	Product	9x <sup>2</sup>	36x <sup>2</sup>	-12x <sup>2</sup>	10y <sup>2</sup>	0w <sup>2</sup>	10x <sup>2</sup>		

	-6x		-6w		-14y		6x	-14a	-11b	-15xy
8.		9.		10.		11.		12.	13.	14.
	5x <sup>2</sup>		0w <sup>2</sup>		48y <sup>2</sup>		8x <sup>2</sup>	49a <sup>2</sup>	10b <sup>2</sup>	56x <sup>2</sup> y <sup>2</sup>

	8a		5b		9x <sup>2</sup>		-3y	8x	4x <sup>3</sup>	-8x <sup>3</sup>
15.		16.		17.		18.		19.	20.	21.
	15a <sup>2</sup>		-6b <sup>2</sup>		8x <sup>4</sup>		-18y <sup>2</sup>	-20x <sup>2</sup>	3x <sup>6</sup>	12x <sup>6</sup>

	7y		10x <sup>3</sup>		11x		-12x	15x <sup>3</sup>	4a	1b
22.		23.		24.		25.		26.	27.	28.
	-8y <sup>2</sup>		24x <sup>6</sup>		28x <sup>2</sup>		20x <sup>2</sup>	50x <sup>6</sup>	-60a <sup>2</sup>	-30b <sup>2</sup>

	14x		3w		4x <sup>2</sup>		8x <sup>3</sup>	2a	5a	6xy
29.		30.		31.		32.		33.	34.	35.
	49x <sup>2</sup>		-40w <sup>2</sup>		4x <sup>4</sup>		-20x <sup>6</sup>	-63a <sup>2</sup>	-14a <sup>2</sup>	-7x <sup>2</sup> y <sup>2</sup>

## Factor Table 4B

### Variables

Product Rules: Multiply Down.  
 1 Negative key = negative  
 2 Negative keys = positive  
 Add exponents

Sum Rules: Combine (Add or Subtract) up.  
 Match the sign of the larger key number (absolute value)  
 Same signs - Add; Different signs - Subtract  
 Keep the same exponent

	-16y	Sum	6x		-5x		16x		7y		3w		-1x
1.		Key	2.		3.		4.		5.		6.		7.
		Key											
	63y <sup>2</sup>	Product	-27x <sup>2</sup>		-24x <sup>2</sup>		63x <sup>2</sup>		-18y <sup>2</sup>		0w <sup>2</sup>		-42x <sup>2</sup>

	-19x		2w		6y		5x		11a		-6b		3xy
8.		9.		10.		11.		12.		13.		14.	
	90x <sup>2</sup>		0w <sup>2</sup>		-27y <sup>2</sup>		6x <sup>2</sup>		28a <sup>2</sup>		8b <sup>2</sup>		0x <sup>2</sup> y <sup>2</sup>

	7a		-3b		-6x <sup>2</sup>		1y		-6x		-8x <sup>3</sup>		15x <sup>3</sup>
15.		16.		17.		18.		19.		20.		21.	
	-8a <sup>2</sup>		0b <sup>2</sup>		8x <sup>4</sup>		-12y <sup>2</sup>		-7x <sup>2</sup>		7x <sup>6</sup>		56x <sup>6</sup>

	-3y		0x <sup>3</sup>		-12x		-1x		-3x <sup>3</sup>		-9a		15b
22.		23.		24.		25.		26.		27.		28.	
	-54y <sup>2</sup>		-1x <sup>6</sup>		35x <sup>2</sup>		-6x <sup>2</sup>		-18x <sup>6</sup>		14a <sup>2</sup>		56b <sup>2</sup>

	1x		-4w		17x <sup>2</sup>		-2x <sup>3</sup>		14a		-2a		-3xy
29.		30.		31.		32.		33.		34.		35.	
	-72x <sup>2</sup>		-32w <sup>2</sup>		70x <sup>4</sup>		-3x <sup>6</sup>		40a <sup>2</sup>		-8a <sup>2</sup>		-40x <sup>2</sup> y <sup>2</sup>

## Factor Table 4C

### Variables

Product Rules: Multiply Down.  
 1 Negative key = negative  
 2 Negative keys = positive  
 Add exponents

Sum Rules: Combine (Add or Subtract) up.  
 Match the sign of the larger key number(absolute value)  
 Same signs - Add; Different signs - Subtract  
 Keep the same exponent

	-11y	Sum	-8x		4x		3x		6y		1w		-1x
1.		Key	2.		3.		4.		5.		6.		7.
		Key											
	18y <sup>2</sup>	Product	7x <sup>2</sup>		-12x <sup>2</sup>		-4x <sup>2</sup>		-16y <sup>2</sup>		-2w <sup>2</sup>		-72x <sup>2</sup>

	2x		-8w		14y		-2x		-3a		-11b		14xy
8.		9.		10.		11.		12.		13.		14.	
	-80x <sup>2</sup>		12w <sup>2</sup>		40y <sup>2</sup>		-80x <sup>2</sup>		0a <sup>2</sup>		30b <sup>2</sup>		45x <sup>2</sup> y <sup>2</sup>

	13a		9b		2x <sup>2</sup>		-11y		7x		8x <sup>3</sup>		9x <sup>3</sup>
15.		16.		17.		18.		19.		20.		21.	
	42a <sup>2</sup>		14b <sup>2</sup>		-80x <sup>4</sup>		18y <sup>2</sup>		10x <sup>2</sup>		0x <sup>6</sup>		18x <sup>6</sup>

	-8y		-16x <sup>3</sup>		-6x		7x		-13x <sup>3</sup>		-3a		6b
22.		23.		24.		25.		26.		27.		28.	
	15y <sup>2</sup>		63x <sup>6</sup>		5x <sup>2</sup>		-30x <sup>2</sup>		40x <sup>6</sup>		2a <sup>2</sup>		-40b <sup>2</sup>

	-15x		10w		-1x <sup>2</sup>		2x <sup>3</sup>		-10a		-1a		-1xy
29.		30.		31.		32.		33.		34.		35.	
	50x <sup>2</sup>		0w <sup>2</sup>		-56x <sup>4</sup>		0x <sup>6</sup>		24a <sup>2</sup>		-6a <sup>2</sup>		-90x <sup>2</sup> y <sup>2</sup>

## Factor Table 4D

### Variables

Product Rules: Multiply Down.  
 1 Negative key = negative  
 2 Negative keys = positive  
 Add exponents

Sum Rules: Combine (Add or Subtract) up.  
 Match the sign of the larger key number(absolute value)  
 Same signs - Add; Different signs - Subtract  
 Keep the same exponent

	10y	Sum	-12x		-11x		-10x		8y		11w		-4x
1.		Key	2.		3.		4.		5.		6.		7.
		Key											
	0y <sup>2</sup>	Product	36x <sup>2</sup>		24x <sup>2</sup>		21x <sup>2</sup>		7y <sup>2</sup>		28w <sup>2</sup>		-21x <sup>2</sup>
8.	-3x		4w	9.	11y	10.	-8x	11.	13a	12.	0b	13.	-5xy
	-40x <sup>2</sup>		-45w <sup>2</sup>		24y <sup>2</sup>		-9x <sup>2</sup>		36a <sup>2</sup>		-9b <sup>2</sup>		-36x <sup>2</sup> y <sup>2</sup>
15.	5a		-9b	16.	-5x <sup>2</sup>	17.	5y	18.	17x	19.	-9x <sup>3</sup>	20.	-8x <sup>3</sup>
	-50a <sup>2</sup>		14b <sup>2</sup>		-6x <sup>4</sup>		0y <sup>2</sup>		70x <sup>2</sup>		0x <sup>6</sup>		-20x <sup>6</sup>
22.	13y		11x <sup>3</sup>	23.	10x	24.	4x	25.	7x <sup>3</sup>	26.	5a	27.	-6b
	42y <sup>2</sup>		30x <sup>6</sup>		9x <sup>2</sup>		-12x <sup>2</sup>		-8x <sup>6</sup>		-50a <sup>2</sup>		-27b <sup>2</sup>
29.	-11x		16w	30.	3x <sup>2</sup>	31.	0x <sup>3</sup>	32.	13a	33.	-10a	34.	-3xy
	18x <sup>2</sup>		60w <sup>2</sup>		-40x <sup>4</sup>		-25x <sup>6</sup>		30a <sup>2</sup>		0a <sup>2</sup>		-54x <sup>2</sup> y <sup>2</sup>

### Factor Table 4A

#### Key

1. $\begin{matrix} 1y \\ -3y \\ 4y \\ -12y^2 \end{matrix}$	2. $\begin{matrix} -10x \\ -1x \\ -9x \\ 9x^2 \end{matrix}$	3. $\begin{matrix} -12x \\ -6x \\ -6x \\ 36x^2 \end{matrix}$	4. $\begin{matrix} 1x \\ 4x \\ -3x \\ -12x^2 \end{matrix}$	5. $\begin{matrix} 7y \\ 2y \\ 5y \\ 10y^2 \end{matrix}$	6. $\begin{matrix} 1w \\ 0w \\ 1w \\ 0w^2 \end{matrix}$	7. $\begin{matrix} -11x \\ -1x \\ -10x \\ 10x^2 \end{matrix}$
8. $\begin{matrix} -6x \\ -1x \\ -5x \\ 5x^2 \end{matrix}$	9. $\begin{matrix} -6w \\ 0w \\ -6w \\ 0w^2 \end{matrix}$	10. $\begin{matrix} -14y \\ -6y \\ -8y \\ 48y^2 \end{matrix}$	11. $\begin{matrix} 6x \\ 4x \\ 2x \\ 8x^2 \end{matrix}$	12. $\begin{matrix} -14a \\ -7a \\ -7a \\ 49a^2 \end{matrix}$	13. $\begin{matrix} -11b \\ -10b \\ -1b \\ 10b^2 \end{matrix}$	14. $\begin{matrix} -15xy \\ -7xy \\ -8xy \\ 56x^2y^2 \end{matrix}$
15. $\begin{matrix} 8a \\ 5a \\ 3a \\ 15a^2 \end{matrix}$	16. $\begin{matrix} 5b \\ -1b \\ 6b \\ -6b^2 \end{matrix}$	17. $\begin{matrix} 9x^2 \\ 8x^2 \\ 1x^2 \\ 8x^4 \end{matrix}$	18. $\begin{matrix} -3y \\ -6y \\ 3y \\ -18y^2 \end{matrix}$	19. $\begin{matrix} 8x \\ -2x \\ 10x \\ -20x^2 \end{matrix}$	20. $\begin{matrix} 4x^3 \\ 3x^3 \\ 1x^3 \\ 3x^6 \end{matrix}$	21. $\begin{matrix} -8x^3 \\ -6x^3 \\ -2x^3 \\ 12x^6 \end{matrix}$
22. $\begin{matrix} 7y \\ -1y \\ 8y \\ -8y^2 \end{matrix}$	23. $\begin{matrix} 10x^3 \\ 4x^3 \\ 6x^3 \\ 24x^6 \end{matrix}$	24. $\begin{matrix} 11x \\ 4x \\ 7x \\ 28x^2 \end{matrix}$	25. $\begin{matrix} -12x \\ -2x \\ -10x \\ 20x^2 \end{matrix}$	26. $\begin{matrix} 15x^3 \\ 5x^3 \\ 10x^3 \\ 50x^6 \end{matrix}$	27. $\begin{matrix} 4a \\ -6a \\ 10a \\ -60a^2 \end{matrix}$	28. $\begin{matrix} 1b \\ 6b \\ -5b \\ -30b^2 \end{matrix}$
29. $\begin{matrix} 14x \\ 7x \\ 7x \\ 49x^2 \end{matrix}$	30. $\begin{matrix} 3w \\ 8w \\ -5w \\ -40w^2 \end{matrix}$	31. $\begin{matrix} 4x^2 \\ 2x^2 \\ 2x^2 \\ 4x^4 \end{matrix}$	32. $\begin{matrix} 8x^3 \\ 10x^3 \\ -2x^3 \\ -20x^6 \end{matrix}$	33. $\begin{matrix} 2a \\ 9a \\ -7a \\ -63a^2 \end{matrix}$	34. $\begin{matrix} 5a \\ 7a \\ -2a \\ -14a^2 \end{matrix}$	35. $\begin{matrix} 6xy \\ 7xy \\ -1xy \\ -7x^2y^2 \end{matrix}$

### Factor Table 4B

#### Key

1. $\begin{matrix} -16y \\ -9y \\ -7y \\ 63y^2 \end{matrix}$	2. $\begin{matrix} 6x \\ 9x \\ -3x \\ -27x^2 \end{matrix}$	3. $\begin{matrix} -5x \\ -8x \\ 3x \\ -24x^2 \end{matrix}$	4. $\begin{matrix} 16x \\ 7x \\ 9x \\ 63x^2 \end{matrix}$	5. $\begin{matrix} 7y \\ -2y \\ 9y \\ -18y^2 \end{matrix}$	6. $\begin{matrix} 3w \\ 0w \\ 3w \\ 0w^2 \end{matrix}$	7. $\begin{matrix} -1x \\ 6x \\ -7x \\ -42x^2 \end{matrix}$
8. $\begin{matrix} -19x \\ -9x \\ -10x \\ 90x^2 \end{matrix}$	9. $\begin{matrix} 2w \\ 0w \\ 2w \\ 0w^2 \end{matrix}$	10. $\begin{matrix} 6y \\ 9y \\ -3y \\ -27y^2 \end{matrix}$	11. $\begin{matrix} 5x \\ 3x \\ 2x \\ 6x^2 \end{matrix}$	12. $\begin{matrix} 11a \\ 4a \\ 7a \\ 28a^2 \end{matrix}$	13. $\begin{matrix} -6b \\ -4b \\ -2b \\ 8b^2 \end{matrix}$	14. $\begin{matrix} 3xy \\ 0xy \\ 3xy \\ 0x^2y^2 \end{matrix}$
15. $\begin{matrix} 7a \\ 8a \\ -1a \\ -8a^2 \end{matrix}$	16. $\begin{matrix} -3b \\ 0b \\ -3b \\ 0b^2 \end{matrix}$	17. $\begin{matrix} -6x^2 \\ -4x^2 \\ -2x^2 \\ 8x^4 \end{matrix}$	18. $\begin{matrix} 1y \\ -3y \\ 4y \\ -12y^2 \end{matrix}$	19. $\begin{matrix} -6x \\ -7x \\ 1x \\ -7x^2 \end{matrix}$	20. $\begin{matrix} -8x^3 \\ -1x^3 \\ -7x^3 \\ 7x^6 \end{matrix}$	21. $\begin{matrix} 15x^3 \\ 7x^3 \\ 8x^3 \\ 56x^6 \end{matrix}$
22. $\begin{matrix} -3y \\ 6y \\ -9y \\ -54y^2 \end{matrix}$	23. $\begin{matrix} 0x^3 \\ 1x^3 \\ -1x^3 \\ -1x^6 \end{matrix}$	24. $\begin{matrix} -12x \\ -5x \\ -7x \\ 35x^2 \end{matrix}$	25. $\begin{matrix} -1x \\ 2x \\ -3x \\ -6x^2 \end{matrix}$	26. $\begin{matrix} -3x^3 \\ 3x^3 \\ -6x^3 \\ -18x^6 \end{matrix}$	27. $\begin{matrix} -9a \\ -7a \\ -2a \\ 14a^2 \end{matrix}$	28. $\begin{matrix} 15b \\ 8b \\ 7b \\ 56b^2 \end{matrix}$
29. $\begin{matrix} 1x \\ -8x \\ 9x \\ -72x^2 \end{matrix}$	30. $\begin{matrix} -4w \\ 4w \\ -8w \\ -32w^2 \end{matrix}$	31. $\begin{matrix} 17x^2 \\ 7x^2 \\ 10x^2 \\ 70x^4 \end{matrix}$	32. $\begin{matrix} -2x^3 \\ -3x^3 \\ 1x^3 \\ -3x^6 \end{matrix}$	33. $\begin{matrix} 14a \\ 4a \\ 10a \\ 40a^2 \end{matrix}$	34. $\begin{matrix} -2a \\ -4a \\ 2a \\ -8a^2 \end{matrix}$	35. $\begin{matrix} -3xy \\ 5xy \\ -8xy \\ -40x^2y^2 \end{matrix}$

### Factor Table 4C

#### Key

1. $\begin{matrix} -11y \\ -9y \\ -2y \\ 18y^2 \end{matrix}$	2. $\begin{matrix} -8x \\ -1x \\ -7x \\ 7x^2 \end{matrix}$	3. $\begin{matrix} 4x \\ 6x \\ -2x \\ -12x^2 \end{matrix}$	4. $\begin{matrix} 3x \\ 4x \\ -1x \\ -4x^2 \end{matrix}$	5. $\begin{matrix} 6y \\ 8y \\ -2y \\ -16y^2 \end{matrix}$	6. $\begin{matrix} 1w \\ 2w \\ -1w \\ -2w^2 \end{matrix}$	7. $\begin{matrix} -1x \\ 8x \\ -9x \\ -72x^2 \end{matrix}$
8. $\begin{matrix} 2x \\ -8x \\ 10x \\ -80x^2 \end{matrix}$	9. $\begin{matrix} -8w \\ -6w \\ -2w \\ 12w^2 \end{matrix}$	10. $\begin{matrix} 14y \\ 4y \\ 10y \\ 40y^2 \end{matrix}$	11. $\begin{matrix} -2x \\ -10x \\ 8x \\ -80x^2 \end{matrix}$	12. $\begin{matrix} -3a \\ -3a \\ 0a \\ 0a^2 \end{matrix}$	13. $\begin{matrix} -11b \\ -6b \\ -5b \\ 30b^2 \end{matrix}$	14. $\begin{matrix} 14xy \\ 9xy \\ 5xy \\ 45x^2y^2 \end{matrix}$
15. $\begin{matrix} 13a \\ 6a \\ 7a \\ 42a^2 \end{matrix}$	16. $\begin{matrix} 9b \\ 7b \\ 2b \\ 14b^2 \end{matrix}$	17. $\begin{matrix} 2x^2 \\ -8x^2 \\ 10x^2 \\ -80x^4 \end{matrix}$	18. $\begin{matrix} -11y \\ -2y \\ -9y \\ 18y^2 \end{matrix}$	19. $\begin{matrix} 7x \\ 2x \\ 5x \\ 10x^2 \end{matrix}$	20. $\begin{matrix} 8x^3 \\ 8x^3 \\ 0x^3 \\ 0x^6 \end{matrix}$	21. $\begin{matrix} 9x^3 \\ 6x^3 \\ 3x^3 \\ 18x^6 \end{matrix}$
22. $\begin{matrix} -8y \\ -3y \\ -5y \\ 15y^2 \end{matrix}$	23. $\begin{matrix} -16x^3 \\ -9x^3 \\ -7x^3 \\ 63x^6 \end{matrix}$	24. $\begin{matrix} -6x \\ -1x \\ -5x \\ 5x^2 \end{matrix}$	25. $\begin{matrix} 7x \\ -3x \\ 10x \\ -30x^2 \end{matrix}$	26. $\begin{matrix} -13x^3 \\ -5x^3 \\ -8x^3 \\ 40x^6 \end{matrix}$	27. $\begin{matrix} -3a \\ -1a \\ -2a \\ 2a^2 \end{matrix}$	28. $\begin{matrix} 6b \\ 10b \\ -4b \\ -40b^2 \end{matrix}$
29. $\begin{matrix} -15x \\ -10x \\ -5x \\ 50x^2 \end{matrix}$	30. $\begin{matrix} 10w \\ 0w \\ 10w \\ 0w^2 \end{matrix}$	31. $\begin{matrix} -1x^2 \\ 7x^2 \\ -8x^2 \\ -56x^4 \end{matrix}$	32. $\begin{matrix} 2x^3 \\ 0x^3 \\ 2x^3 \\ 0x^6 \end{matrix}$	33. $\begin{matrix} -10a \\ -4a \\ -6a \\ 24a^2 \end{matrix}$	34. $\begin{matrix} -1a \\ -3a \\ 2a \\ -6a^2 \end{matrix}$	35. $\begin{matrix} -1xy \\ 9xy \\ -10xy \\ -90x^2y^2 \end{matrix}$

### Factor Table 4D

#### Key

1. $\begin{matrix} 10y \\ 10y \\ 0y \\ 0y^2 \end{matrix}$	2. $\begin{matrix} -12x \\ -6x \\ -6x \\ 36x^2 \end{matrix}$	3. $\begin{matrix} -11x \\ -3x \\ -8x \\ 24x^2 \end{matrix}$	4. $\begin{matrix} -10x \\ -7x \\ -3x \\ 21x^2 \end{matrix}$	5. $\begin{matrix} 8y \\ 7y \\ 1y \\ 7y^2 \end{matrix}$	6. $\begin{matrix} 11w \\ 7w \\ 4w \\ 28w^2 \end{matrix}$	7. $\begin{matrix} -4x \\ -7x \\ 3x \\ -21x^2 \end{matrix}$
8. $\begin{matrix} -3x \\ -8x \\ 5x \\ -40x^2 \end{matrix}$	9. $\begin{matrix} 4w \\ 9w \\ -5w \\ -45w^2 \end{matrix}$	10. $\begin{matrix} 11y \\ 8y \\ 3y \\ 24y^2 \end{matrix}$	11. $\begin{matrix} -8x \\ -9x \\ 1x \\ -9x^2 \end{matrix}$	12. $\begin{matrix} 13a \\ 4a \\ 9a \\ 36a^2 \end{matrix}$	13. $\begin{matrix} 0b \\ -3b \\ 3b \\ -9b^2 \end{matrix}$	14. $\begin{matrix} -5xy \\ -9xy \\ 4xy \\ -36x^2y^2 \end{matrix}$
15. $\begin{matrix} 5a \\ -5a \\ 10a \\ -50a^2 \end{matrix}$	16. $\begin{matrix} -9b \\ -7b \\ -2b \\ 14b^2 \end{matrix}$	17. $\begin{matrix} -5x^2 \\ 1x^2 \\ -6x^2 \\ -6x^4 \end{matrix}$	18. $\begin{matrix} 5y \\ 0y \\ 5y \\ 0y^2 \end{matrix}$	19. $\begin{matrix} 17x \\ 7x \\ 10x \\ 70x^2 \end{matrix}$	20. $\begin{matrix} -9x^3 \\ 0x^3 \\ -9x^3 \\ 0x^6 \end{matrix}$	21. $\begin{matrix} -8x^3 \\ -10x^3 \\ 2x^3 \\ -20x^6 \end{matrix}$
22. $\begin{matrix} 13y \\ 6y \\ 7y \\ 42y^2 \end{matrix}$	23. $\begin{matrix} 11x^3 \\ 5x^3 \\ 6x^3 \\ 30x^6 \end{matrix}$	24. $\begin{matrix} 10x \\ 1x \\ 9x \\ 9x^2 \end{matrix}$	25. $\begin{matrix} 4x \\ 6x \\ -2x \\ -12x^2 \end{matrix}$	26. $\begin{matrix} 7x^3 \\ -1x^3 \\ 8x^3 \\ -8x^6 \end{matrix}$	27. $\begin{matrix} 5a \\ -5a \\ 10a \\ -50a^2 \end{matrix}$	28. $\begin{matrix} -6b \\ 3b \\ -9b \\ -27b^2 \end{matrix}$
29. $\begin{matrix} -11x \\ -2x \\ -9x \\ 18x^2 \end{matrix}$	30. $\begin{matrix} 16w \\ 10w \\ 6w \\ 60w^2 \end{matrix}$	31. $\begin{matrix} 3x^2 \\ -5x^2 \\ 8x^2 \\ -40x^4 \end{matrix}$	32. $\begin{matrix} 0x^3 \\ -5x^3 \\ 5x^3 \\ -25x^6 \end{matrix}$	33. $\begin{matrix} 13a \\ 10a \\ 3a \\ 30a^2 \end{matrix}$	34. $\begin{matrix} -10a \\ 0a \\ -10a \\ 0a^2 \end{matrix}$	35. $\begin{matrix} -3xy \\ 6xy \\ -9xy \\ -54x^2y^2 \end{matrix}$