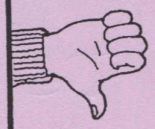
1B

Name _____

Factoring $ax^2 + bx + c$

$12x^2 - 2x - 4 =$
$(12x + 4)(x - 1)$

Wrong!



Right!

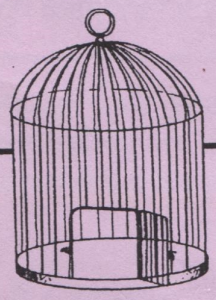
$12x^2 - 2x - 4 =$
$(3x - 2)(4x + 2)$

Quick Review

Use the FOIL method to test your answer and check that the middle term is correct.

$(12x + 4)(x - 1) = 12x^2 - 12x + 4x - 4 = 12x^2 - 8x - 4$ **Wrong!**

$(3x - 2)(4x + 2) = 12x^2 + 6x - 8x - 4 = 12x^2 - 2x - 4$ **Right!**



Factor each expression. Use the code to answer this riddle:
What did the distraught geometry teacher keep repeating when he found the empty parrot cage?

G 1. $8x^2 - 2x - 1 =$ $(4x + 1)(2x - 1)$

L 2. $3x^2 + 10x + 8 =$ $(3x + 4)(x + 2)$

L 3. $5x^2 + 24x + 27 =$ $(5x + 9)(x + 3)$

G 4. $4x^2 - 12x + 8 =$ $4(x^2 - 3x + 2) = 4(x - 2)(x - 1)$

O 5. $6x^2 - 7x - 10 =$ $(6x + 5)(x - 2)$

N 6. $9x^2 + 37x + 4 =$ $(9x + 1)(x + 4)$

O 7. $7x^2 + 5x - 2 =$ $(7x - 2)(x + 1)$

P 8. $3x^2 - 8x - 3 =$ $(3x + 1)(x - 3)$

Y 9. $2x^2 - 8x + 8 =$ $2(x^2 - 4x + 4) = 2(x - 2)(x - 2)$

Y 10. $12x^2 + 8x + 1 =$ $(6x + 1)(2x + 1)$

N 11. $8x^2 + 11x - 10 =$ $(8x - 5)(x + 2)$

O 12. $6x^2 + 10x + 4 =$ $2(3x^2 + 5x + 2) = 2(3x + 2)(x + 1)$

P 13. $3x^2 + 6x - 9 =$ $3(x^2 + 2x - 3) = 3(x + 3)(x - 1)$

G 14. $2x^2 + 27x + 81 =$ $(2x + 9)(x + 9)$

G (2x – 2)(2x – 4)

G (2x – 1)(4x + 1)

O (6x + 5)(x – 2)

L (5x + 9)(x + 3)

L (3x + 4)(x + 2)

Y (2x – 4)(x – 2)

Y (6x + 1)(2x + 1)

N (9x + 1)(x + 4)

O (7x – 2)(x + 1)

N (8x – 5)(x + 2)

O (2x + 9)(x + 9)

P (3x + 1)(x – 3)

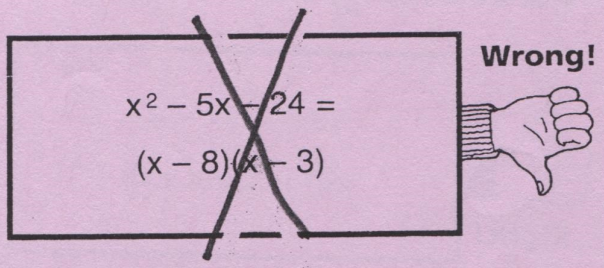
O (2x + 2)(3x + 2)

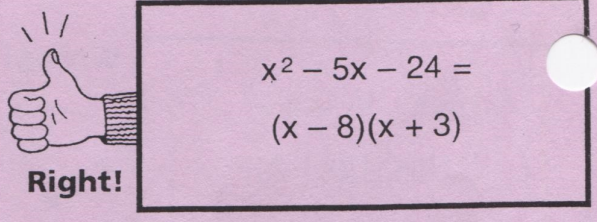
P (3x – 3)(x + 3)

$\frac{P}{8}\ \frac{O}{5}\ \frac{L}{2}\ \frac{Y}{10}\ \frac{G}{4}\ \frac{O}{14}\ \frac{N}{11}$, $\frac{P}{13}\ \frac{O}{7}\ \frac{L}{3}\ \frac{Y}{9}\ \frac{G}{1}\ \frac{O}{12}\ \frac{N}{6}$!

Name _____ 1B

Factoring $x^2 + bx + c$

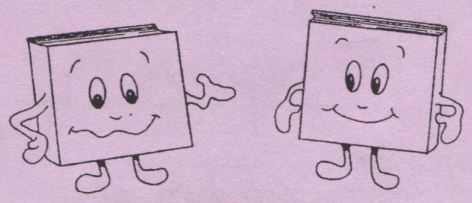




Quick Review

When the last term is positive, the signs in both factors will match the middle term of the trinomial. When the last term is negative, the factors will have opposite signs.

Factor each expression.
Use the code to answer this riddle:
What did the algebra book say to the biology book?



E	1. $x^2 - 5x + 6 =$	$(x-3)(x-2)$
G	2. $x^2 + 13x + 42 =$	$(x+6)(x+7)$
A	3. $x^2 - 11x + 30 =$	$(x-5)(x-6)$
L	4. $x^2 + 10x + 21 =$	$(x+3)(x+7)$
B	5. $x^2 + 14x + 45 =$	$(x+9)(x+5)$
H	6. $x^2 - 12x + 32 =$	$(x-4)(x-8)$
P	7. $x^2 - 11x + 18 =$	$(x-9)(x-2)$
M	8. $x^2 + 8x - 48 =$	$(x+12)(x-4)$
I	9. $x^2 - 8x - 33 =$	$(x-11)(x+3)$
V	10. $x^2 + 11x + 10 =$	$(x+10)(x+1)$
W	11. $x^2 - x - 56 =$	$(x-8)(x+7)$
O	12. $x^2 + 2x - 15 =$	$(x+5)(x-3)$
S	13. $x^2 + 15x + 54 =$	$(x+9)(x+6)$
R	14. $x^2 - 3x - 40 =$	$(x-8)(x+5)$
T	15. $x^2 + 2x - 63 =$	$(x+9)(x-7)$

A	$(x - 5)(x - 6)$
B	$(x + 9)(x + 5)$
E	$(x - 2)(x - 3)$
G	$(x + 6)(x + 7)$
H	$(x - 4)(x - 8)$
I	$(x + 3)(x - 11)$
L	$(x + 7)(x + 3)$
M	$(x + 12)(x - 4)$
O	$(x - 3)(x + 5)$
P	$(x - 2)(x - 9)$
R	$(x - 8)(x + 5)$
S	$(x + 9)(x + 6)$
T	$(x + 9)(x - 7)$
V	$(x + 10)(x + 1)$
W	$(x + 7)(x - 8)$

W O W , H A V E I G O T P R O B L E M S !
11 12 11 6 3 10 1 9 2 12 15 7 14 12 5 4 1 8