

B4 Alg. 2 11/15/11 A.A.

Quadratic Functions

Factoring Functions

Product-Sum-T Method

① ~~Tea chart what two numbers~~

a/c	func.	b
 	 	

Examples:

① $x^2 + 3x - 28$

a/c	func.	b
-28		3
-1·28		
-28·1		
-14·2		
-2·14		
-7·4		
-4·7		3

what two #s when multiplied give me [-28] but when combined gives me [3]

② $x^2 + 7x - 4x - 28$

Rewrite the equation in 4 terms by replacing the middle term with two new #s

c) ~~Factor~~ $(x^2 + 7x)(-4x - 28)$ | Factor by grouping

d) $(x)(x+7)(-4)(x+7)$ | Find GCF
 $(x-4)$

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

a	c	b
6		5
-2	-3	
1	6	
-1	-6	
3	2	5

$x^2 + 3x + 2x + 6$

$(x^2 + 3x)(2x + 6)$

$(x)(x+3)(2)(x+3)$

$(x+3)(2)$

$(x+2)$
 $(x+3)$

$x+3=0$
 $x+2=0$

$x = -3$
 $x = -2$

(con't)

e) $(x-4)$
 $(x+7)$

f) $(x-4)=0$
 $(x+7)=0$

g) $x=4$
 $x=-7$

$$3 \quad 2x^2 + 5x - 12$$

a.	a:c	b
	-24	5
	-3 · 8	-24

$$(b) \quad 2x^2 - 3x + 8x - 12$$

$$(c) \quad (2x^2 - 3x)(8x - 12)$$

$$(d) \quad x(2x - 3) + 4(2x - 3)$$

$$(e) \quad \underbrace{(x + 4)(2x - 3)}$$

$$(f) \quad \begin{aligned} x + 4 &= 0 \\ 2x - 3 &= 0 \end{aligned}$$

$$(g) \quad \begin{aligned} x &= -4 \\ x &= \frac{3}{2} \end{aligned}$$

$$4 \quad 2x^2 + 5x - 12$$

a.	a:c	b
	-24	5
	8 · 3	-24

$$(b) \quad 2x^2 + 8x - 3x - 12$$

$$(c) \quad (2x^2 + 8x)(-3x - 12)$$

$$d) \textcircled{2x}(x+4)\textcircled{-3}(x+4)$$

$$e) \frac{(2x-3)}{(x+4)}$$

$$f) \begin{aligned} 2x-3 &= 0 \\ x+4 &= 0 \end{aligned}$$

$$g) \begin{aligned} x &= 3/2 \\ x &= -4 \end{aligned}$$