# 8.4) Factoring Trinomials $x^2+bx+c$

21. $a^2+6a-16$

(×) $-16$ : $-1, 16$; $-2, 8$; $-4, 4$

(+) $6$

$=(a-2)(a+8)$

22. $x^2+9x+20$

(×) $20$ : $1, 20$; $2, 10$; $4, 5$

(+) $9$

$=(x+4)(x+5)$

29. $3x^2-21x+36$

$=3(x^2-7x+12)$

(×) $12$ : $-1, -12$; $-2, -6$; $-3, -4$

(+) $-7$

$=3(x-3)(x-4)$

30. $5x^2-5x-10$

$=5(x^2-x-2)$

(×) $-2$ : $1, -2$

(+) $-1$

$=5(x-2)(x+1)$

38. $3k^3+15k^2-18k$

$=3k(k^2+5k-6)$

(×) $-6$ : $-1, 6$; $-2, 3$

(+) $5$

$=3k(k-1)(k+6)$

You do # 23, 24, 33, 34

41. $b^2 + 12b + 48$

(x) 48
(+) 12

1, 48 = 49
2, 24 = 26
3, 16 = 19
4, 12 = 16
6, 8 = 14

Not Factorable

43 $z^2 - 20z + 100$

$= (z-10)(z-10)$

$= (z-10)^2$

(x) 100
(+) -20

-1, -100
-2, -50
-4, -25
-5, -20
-10, -10

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

(x) -4
(+) -4

1, -4 = -3
2, -2 = 0

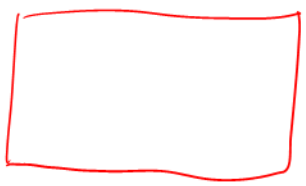
Not factorable.

$3x^2 - 12x - 12$

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

Can't factor any more

47.



$A = x^2 + 9x + 20$

a) $A = (x+4)(x+5)$

b) $A = (x+4-1)(x+5-1)$

$A = (x+3)(x+4)$

c) $A = x^2 + 4x + 3x + 12 = x^2 + 7x + 12$

# 8.5 Special Products (Difference of Squares)

8. $(a+5)(a-5)$

$= a^2 - 5a + 5a - 25$

$= a^2 - 25$

10. $(x-9)(x+9)$

$= x^2 - 81$

12. $(t-10)(t+10)$

$= t^2 - 100$

13. $(2x-1)(2x+1)$

$= 4x^2 - 1$

18. $(10t-3)(10t+3)$

$= 100t^2 - 9$

23. $(x^2+3)(x^2-3)$

$= x^4 - 9$

32. $(x-1)(x+1)(x^2+1)$

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

$= x^4 - 1$

Homework: 8.4 Finish

8.5 #7-34