6.4: 13, 52

Note Title 4/28/2016

6.4 13 $4(p+2)+m(p+2)$

let $p+2=x$

then $4x+mx$

$x(4+m)$

resub

$(p+2)(4+m)$

53. $(2m+n)^2-(2m-n)^2$

let $x=(2m+n)$

$y=(2m-n)$

x^2-y^2

$(x+y)(x-y)$

$(2m+n+2m-n)(2m+n-2m+n)$

$4m(2n)=8mn$

FTA:

6.5: Solving

$ax^2+bx+c=0$

8. $x^2+x-12=0$

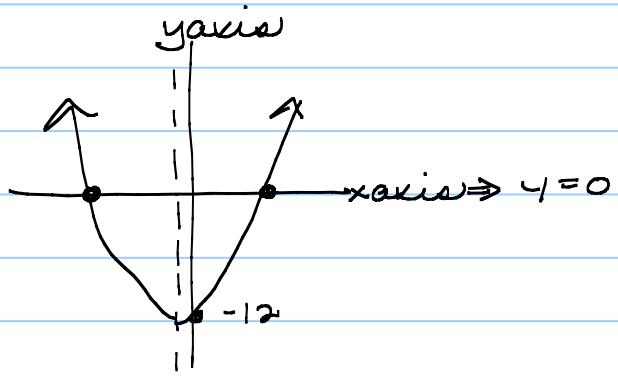
$(x+4)(x-3)=0$

$x+4=0 \quad x-3=0$

$x=-4 \quad x=3$

$\{-4,3\}$

axis: $x=\frac{-4+3}{2}=-\frac{1}{2}$; $x=\frac{-b}{2a}=\frac{-1}{2(1)}$



6.5 Solving Equations by Factoring p 3-47eoo with graph sketches, 49,50,53,57,58

Solving Trigonometric Equations by Factoring

Note Title 4/28/2016

Verifying Trigonometric Equations (with identities, 3 col format)

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

$2x^2 + x - 3 = 0$

$(2x + 3)(x - 1) = 0$

$x = -3/2, 1$

$\{-3/2, 1\}$

$x = -1/4$

$x = -b/2a$ or $\frac{Sol_1 + Sol_2}{2}$

28. $-m^2 - 8m = 16$

$-m^2 - 8m - 16 = 0$

$-1(m^2 + 8m + 16) = 0$

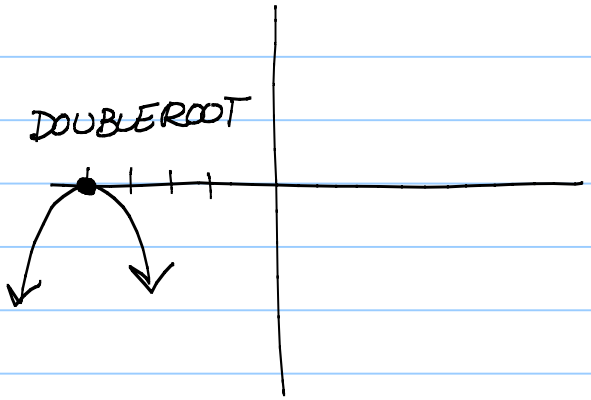
$-1(m+4)(m+4) = 0$

$-1(m+4)^2 = 0$

$m = -4$

$\{-4\}$

a<0 RHB ↘



36. $(2x+1)(x+5) = (x+11)(x+3)$

$2x^2 + 11x + 5 = x^2 + 14x + 33$

$-x^2 - 14x - 33 \quad -x^2 - 14x - 33$

$x^2 - 3x - 28 = 0$

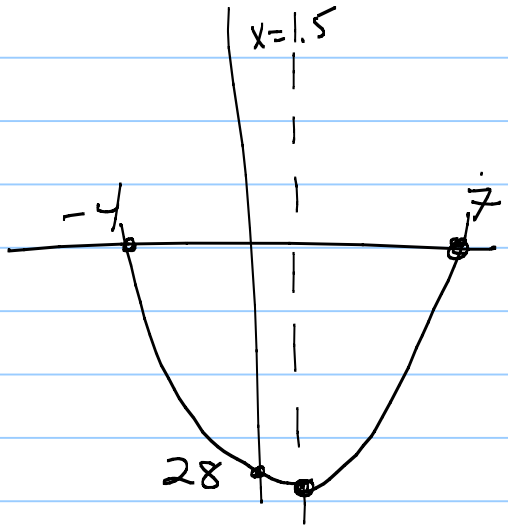
$(x - 7)(x + 4) = 0$

$x = 7 \quad \& \quad -4$

$\{-4, 7\}$

a>0 RHB ↗

c=28



FTA ⇒ 3 sol.

39. $x^3 - 2x^2 = 3x$

$x^3 - 2x^2 - 3x = 0$

$x(x^2 - 2x - 3) = 0$

$x(x-3)(x+1) = 0$

$\{-1, 0, 3\}$

$a > 0 \Rightarrow$ RHB ↗

46. $x^3 - 3x^2 - 4x + 12 = 0$

$x^2(x-3) - 4(x-3) = 0$

$(x-3)(x^2-4) = 0$

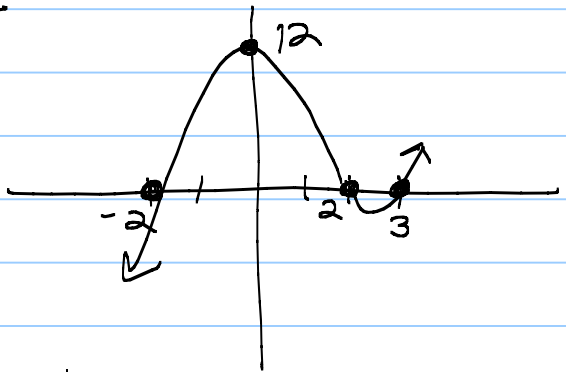
$(x-3)(x-2)(x+2) = 0$

$\{-2, 2, 3\}$

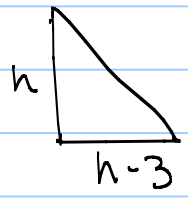
$a > 0 \Rightarrow$ RHB ↗

$c = 12$

FTA → 3 sol.



52.



$A = \frac{1}{2} b \cdot h$

$44 = \frac{1}{2}(h-3)(h)$

$88 = h^2 - 3h$

$0 = h^2 - 3h - 88$

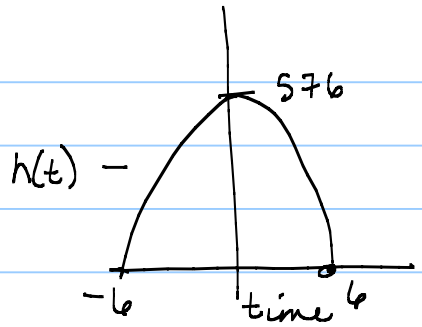
$0 = (h-11)(h+8)$

$\{-8, 11\}$

$\{11\}$

$$h(t) = gt^2 - v_0 t + s$$

60.



Rock height over time

$h(t) = -16t^2 + 576$

$0 = -16(t^2 - 36)$

$0 = -16(t-6)(t+6)$

$\{-6, 6\}$

$\{6 \text{ sec}\}$