

August 29, 2016
 * Quiz #2 - Wednesday
 * Completing the Square

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Completing the Square
 #12
 ① $9m^2 + 79 = -18m$
 ② $m^2 + 18m + 79 = 0$
 $\frac{-18m}{9} \quad \frac{79}{9}$
 $m^2 + 2m + \frac{79}{9} = 0$
 ③ $m^2 + 2m = -\frac{79}{9}$
 ④ $2 \cdot \frac{1}{2} = 1$
 ⑤ $(1)^2 = 1$ add to both sides
 ⑥ $m^2 + 2m + 1 = -\frac{79}{9} + 1$
 $(m+1)(m+1) = \frac{-79+9}{9}$
 $(m+1)^2 = \frac{-70}{9}$
 $m+1 = \pm \sqrt{\frac{-70}{9}}$
 $m+1 = \pm \frac{\sqrt{-70}}{3}$
 ⑦ $m = -1 \pm \frac{\sqrt{-70}}{3}$

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#9) $x^2 - 4x - 91 = 7$
 $x^2 - 4x = 98$
 $-4 \cdot \frac{1}{2} = -2$
 $(-2)^2 = 4$
 $x^2 - 4x + 4 = 98 + 4$
 $\sqrt{(x-2)^2} = \pm \sqrt{102}$
 $x-2 = \pm \sqrt{102}$
 $x = 2 \pm \sqrt{102}$

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