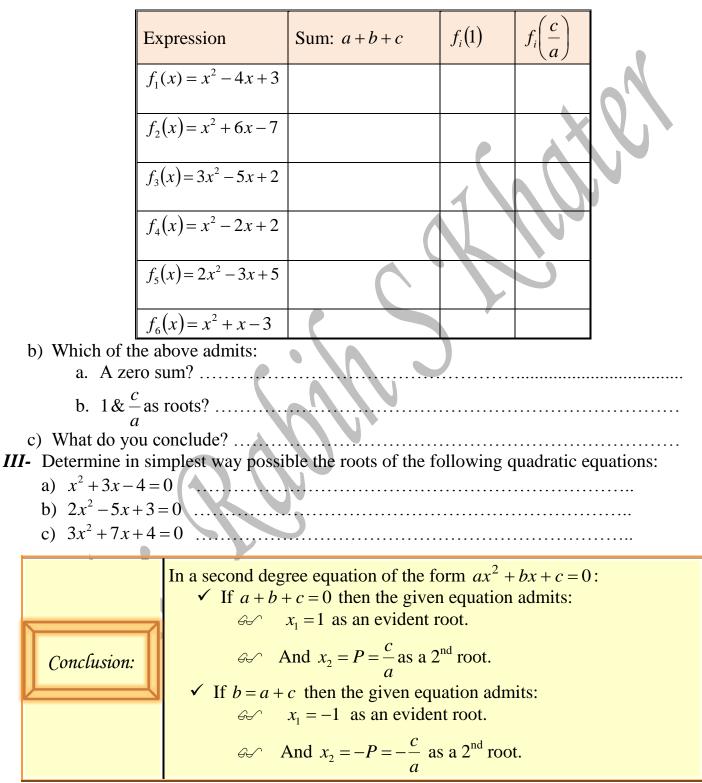
Al-Mahdi High School Mathematics	11 th -Grade
Name: Sum & Product of a quadratic equation	A.S-2
 Goals: 1) Define the Sum & Product of roots of a complete quadratic equation. 2) Express a quadratic equation in terms of sum and product of its roots. 3) Test if a quadratic equation admits an evident root, and find the second root focusing event: Can you find two natural numbers whose: a) sum is 4 and product is 3?(show your work) 	ot.
b) sum is 12and product is 5?(show your work)	
<i>I</i> - Consider the quadratic equation: $f(x) = ax^2 + bx + c = 0$. 1) Complete the following: $\alpha \& \beta$ are two distinct roots of $f(x)$, if: $f(\alpha) = ax^2 + bx + c = 0$.	= &
 2) Find for these roots their: <i>i</i>. Sum: S = =	
4) Deduce the factorized form of $f(x)$:	
5) Write the expanded form of $f(x)$ in terms of $\alpha \& \beta$:	
6) Express the quadratic equation $ax^2 + bx + c = 0$ in terms of <i>S</i> & <i>P</i> :	
7) If $f(x)$ can be written in the form: $x^2 - Sx + P = 0$, then specify the co f(x) admits two real roots:	ndition for which
<i>Conclusion:</i> A second degree equation can be written in the form: x^2 And it admits two real roots iff: $\Delta \ge 0$ That is to say if: $S^2 - 4p \ge 0$	-Sx+P=0.

Evident root of a second degree trinomial

II- Answer the following:

a) Complete the following table:



A.S-2. Sum & Product of a quadratic equation