Solutions (or Roots) of Quadratics.	subs $\alpha\beta = 2$	Or we just say: $Product = 2q \times 2\beta$
If the roots of a quadratic are α and β	$\mu \mu \mu \mu = 3$	$-4 \times \alpha R - \mathbf{Q}$
If the roots of a quadratic are α and β	$r^{2} - 2(3)r + 4(2) = 0$	$\frac{-4}{\alpha\mu} - \mathbf{o}$ Sum = $2\alpha + 2\beta$
(x - a)(x - b) = 0	$\begin{vmatrix} x - 2(3)x + 4(2) = 0 \\ x^2 - 6x + 9 = 0 \end{vmatrix}$	$=2(\alpha+\beta)=6$
$(x-\alpha)(x-\beta)=0$	$x - 0x + \delta = 0$	2(0, p) 0
Multiplying out, we get:	2. Suppose we say that	t the roots of the
$x^2 - \alpha x - \beta x + \alpha \beta = 0$	equation $x^2 - 3x + 2 =$	= 0 are α and β
$x^2 - (\alpha + \beta) x + \alpha\beta = 0$	then FIND the equation with roots of	
so for any quadratic equation in the	3α and 3β .	
$form \ x^2 + bx + c = 0$		
the PRODUCT of the roots $\alpha\beta = c$	<i>Firstly</i> $\alpha\beta = 2$	
and the SUM of the roots $\alpha + \beta = -b$	and $\alpha + \beta = 3$	
	The equation would be	e :
eg1. for the equation $x^2 + 9x + 20 = 0$	$(x-3\alpha)(x-3\beta)=0$	
lphaeta=20	Multiplying out, we ge	<i>et</i> :
$\alpha + \beta = -9$	$x^2 - 3\alpha x - 3\beta x + 9\alpha\beta = 0$	
	$x^2-3(\alpha+\beta)x+9\alpha\beta$	= 0
eg2. for this equation $x^2 - 5x - 6 = 0$	subs $\alpha\beta = 2$	Or we just say:
lphaeta=-6	and $\alpha + \beta = 3$	Product = $3\alpha \times 3\beta$
$\alpha + \beta = +5$	we get :	$=9 \times \alpha \beta = 18$
-	$x^2 - 3(3)x + 9(2) = 0$	Sum $=3\alpha+3\beta$
eg3. for the equation: $3x^2 - 5x + 11 = 0$	$x^2 - 9x + 18 = 0$	$=3(\alpha+\beta)=9$
$y^2 = 5 x \pm 11 - 0$	3 Suppose we say the	t the roots of the
$\frac{1}{3} - \frac{1}{3} + \frac{1}{3} - 0$	$\begin{bmatrix} 3. & \text{suppose we say Ind} \\ \text{aduation } \mathbf{r}^2 \pm \mathbf{hr} \pm \mathbf{a} \end{bmatrix}$	- Mara and R
3 3	then EIND the equation $x^{+} + bx^{+} + c^{-}$	ρ with roots of
$so \alpha p = \frac{11}{3}$	Ag and AR	m with roots of
$\alpha + \beta - 5$	τα una 4 p .	
$\alpha + \rho = \frac{\beta}{3}$	Firstly $\alpha^{\rho} - \alpha$	
J	$\begin{bmatrix} r usuy & ap - c \\ and a \pm p - b \end{bmatrix}$	
1 Suppose we say that the reats of the	The equation would b	<i>a</i> •
1. Suppose we say that the roots of the equation $r^2 = 3r \pm 2 = 0$ are a and β	$r = A\alpha (r = AR) = 0$	• Or we just say:
then FIND the equation with roots of	$\frac{(x - 4u)(x - 4p) - 0}{Multiplying out we get}$	Product = $4\alpha \times 4\beta$
r_{1} r_{1} r_{1} r_{2} r_{2	$r^2 - 4\alpha r - 4\beta r + 16\alpha\beta = 0$	$=16 \times \alpha \beta$
2α unu $2p$.	$\int_{x^{2}}^{x} -4(\alpha + \beta) x + 16\alpha\beta = 0$	$\frac{1}{0}$ = 16c
Firstly $\alpha\beta = 2$	subs $\alpha\beta = c$	Sum = $4\alpha + 4\beta$
and $\alpha + \beta = 3$	and $\alpha + \beta = -b$	$=4(\alpha+\beta)$ $=-4\mathbf{h}$
The equation would be :	we get :	
$(x-2\alpha)(x-2\beta)=0$	$x^2 - 4(-b)x + 16(c) = 0$)
Multiplying out, we get:	$ x^2+4bx+16c =0$)
$x^2 - 2\alpha x - 2\beta x + 4\alpha\beta = 0$		
$x^2 - 2(\alpha + \beta) x + 4\alpha\beta = 0$		
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