



$a) U \text{ من } \frac{1}{4} \text{ الى } \frac{1}{2}$

$\frac{b}{a} > \dots$

$\frac{-b}{a} > \dots$

$\frac{-\frac{1}{2}}{-\frac{1}{4}} > \dots$

$\Rightarrow \frac{1}{4} < a < \frac{1}{2}$

$$\frac{b_1}{a_1} = \frac{b_2}{a_2} \Rightarrow \frac{a}{p} = \frac{-r}{-r} \Rightarrow a = r$$

$y=1 \Rightarrow px^2 + rx - r = -px^2 - rx + b \Rightarrow px^2 + rx - r + b = 0 \xrightarrow{x=1}$   
 $p(-1)^2 + r(-1) - r + b = 0 \Rightarrow b = 2$

$ab = 1 \times 2 = 2$

$px^2 - ax + b = 0 \rightarrow a' = \beta' = a/r$

$px^2 + ax - 4 = 0 \rightarrow \alpha + \beta = -a/r$   
 $\alpha\beta = -r$

$a'/b' = b/r$

$\frac{-a}{r} + 1 = a/r \Rightarrow a = 1$

$a'b' = \frac{b}{r} \rightarrow (a+1/r)(\beta+1/r) = \frac{b}{r}$

$\alpha\beta + 1/r(\alpha+\beta) + 1/r^2 = \frac{b}{r}$   
 $-r + 1/r(-a) + 1/r^2 = b/r$   
 $-r + 1/r(-1/r) + 1/r^2 = b/r$

$b = -4 \leftarrow -r = b/r$

$$\left[ \frac{a}{r} \right] = \left[ \frac{-4}{r} \right] = \left[ \frac{-10}{r} \right] = -r$$

$(1) px^2 + rx - 4m = 0 \rightarrow px^2 + rx - 4(-4m - px^2)$   
 $px^2 + rx + 16m + 4px^2 \Rightarrow 5px^2 + rx = 0 \Rightarrow 5m(x+4) = 0$

$(2) px^2 + 4mx + m = 0 \rightarrow m = -4x - px^2 \rightarrow m = -4(-2) - (-2)^2$   
 $m = 16 - 4 = 12$

$(1) px^2 + rx - 12 = 0 \quad x = -2 \quad x = 4$   
 $= 16 \cdot (-1) = -16$

$(2) px^2 + 4x + 12 = 0 \rightarrow x = -1 \quad x = -3$