5. $y = px^2 + (p+2)x + (4-p)$ dc memotong sb x di dua titik, mk

$D > 0$

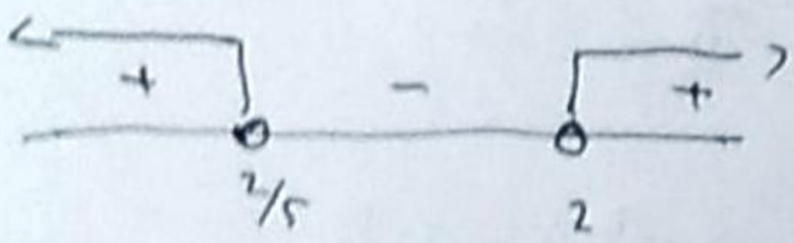
$b^2 - 4ac > 0$

$(p+2)^2 - 4 \cdot p \cdot (4-p) > 0$

$p^2 + 4p + 4 - 16p + 4p^2 > 0$

$5p^2 - 12p + 4 > 0$

$(5p - 2)(p - 2) > 0$



$p = 0 \longrightarrow > 0$

$p = 1 \longrightarrow < 0$

$p = 3 \longrightarrow > 0$

Hp : $\{ p \mid p < 2/5 \text{ atau } p > 2 \}$

6. $y = ax^2 + 2\sqrt{2}x + (a-1)$, $a \neq 0$

memotong di 2 titik berbeda, mk :

$D > 0$

$b^2 - 4ac > 0$

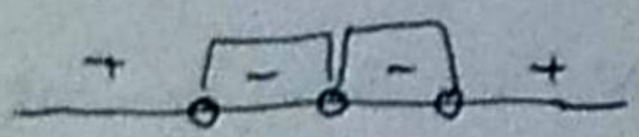
$8 - 4 \cdot a \cdot (a-1) > 0$

$8 - 4a^2 + 4a > 0$

$4(a^2 - a - 2) < 0$

$\Leftrightarrow a^2 - a - 2 < 0$

$(a-2)(a+1) < 0$



$a = -2 \longrightarrow > 0$

$a = -1/2 \longrightarrow < 0$

$a = 1/2 \longrightarrow < 0$

$a = 3 \longrightarrow > 0$

Hp. $\{ a \mid -1 < a < 2, a \neq 0 \}$

7. $3x^2 - 12x + 2 = 0$ akar2nya adl α dan β.

Persamaan kuadrat baru dgn akar2 $(\alpha + 2)$ dan $(\beta + 2)$ adl.

misal :

$A = \alpha + 2$

$B = \beta + 2$

Note : dari diketahui

$\alpha \cdot \beta = 2/3$

$\alpha + \beta = -\frac{(-12)}{3} = 4$

shg :

$A \cdot B = (\alpha + 2)(\beta + 2)$

$= \alpha\beta + 2(\alpha + \beta) + 4$

$= 2/3 + 2 \cdot 4 + 4$

$= 38/3$

$A + B = (\alpha + 2) + (\beta + 2)$

$= \alpha + \beta + 4$

$= 8$

pers kuadrat dgn akar2 A dan B adalah

$x^2 - (A + B)x + AB = 0$

$x^2 - 8x + 38/3 = 0$ | $\times 3$

$3x^2 - 24x + 38 = 0$