

الف)  $x=1$   $y=0$  ,  $\sqrt[3]{6}$   $x$   $\sqrt[3]{6}$   $y$

ب)  $x=1$   $y=\pm 2$   $x$   $\sqrt[3]{6}$   $y$

ج)  $\cos x = 0$   $x = \frac{\pi}{2}$   $y = \pm 1$   $x$   $\sqrt[3]{6}$   $y$

د)  $y^2 + (x+1)^2 = 0$   $x = -1$   $y = 0$   $\checkmark$   $\sqrt[3]{6}$   $y$

الف)  $\sqrt[3]{y_1} = 2x_1 - 2 - x_1^2$   $\left. \begin{array}{l} \sqrt[3]{y_1} = 2x_1 - 2 - x_1^2 \\ \sqrt[3]{y_2} = 2x_2 - 2 - x_2^2 \end{array} \right\} \rightarrow \sqrt[3]{y_1} = \sqrt[3]{y_2}$   $y_1 = y_2$   $\checkmark$   $\sqrt[3]{6}$   $y$

ب)  $y_1^2 + 2y_1 = 2x_1$   $\left. \begin{array}{l} y_1^2 + 2y_1 = 2x_1 \\ y_2^2 + 2y_2 = 2x_2 \end{array} \right\} \rightarrow \begin{array}{l} y_1^2 + 2y_1 = y_2^2 + 2y_2 \\ x_1^2 - y_2^2 + 2y_1 - 2y_2 = 0 \end{array}$   $(y_1 - y_2)(y_1 + y_2 + 2) = 0$

$(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + 2) = 0 \Rightarrow y_1 = y_2$   $\checkmark$   $\sqrt[3]{6}$   $y$

الف)  $x = 2\pi \Rightarrow y = \pi, 2\pi, 0, x$

ب)  $\frac{x}{y} + \frac{y}{x} + \sqrt{\frac{x}{y} \times \frac{y}{x}} = 2$

$\frac{x^2 + y^2}{xy} + 2 = 2$   $x^2 + y^2 - 2xy = 0$   $(x-y)^2 = 0$   $x = y$   $\checkmark$

ك. د. د. د.

١)  $E_1, E_2, E_3$

تكميل شرط

أول شرط

١)  $x^r - a x - r y = 0$

$(x-a)(x+r) = 0$

$x = \frac{r}{r}, -\frac{r}{r}$

٢)  $x^r - a x - a = 0$

$(x-a)(x+1) = 0$

$x = \frac{r}{r}, -\frac{1}{r}$

٣)  $x^r - a x - r = 0$

$(x-a)(x+r) = 0$

$x = -\frac{r}{r}, -\frac{1}{r}$

٤)  $x^r - a x - r = 0$

$(x-a)(x+r) = 0$

$x = \frac{r}{r}, -\frac{r}{r}$

٥)  $x^r - a x - r = 0$

$(x-a)(x+r) = 0$

$x = \frac{r}{r}, -r$

٦)  $x = -1, x = -\frac{r}{a} = -\frac{r}{r}$

٧)  $x = -\frac{r \pm \sqrt{r^2 - 4r}}{r}$

$A < 0 \Rightarrow$

$\frac{r}{r}, \frac{r}{r}$

٨)  $x = -\frac{r \pm \sqrt{r^2 - 4r}}{r} \Rightarrow -\frac{r \pm \sqrt{r^2 - 4r}}{r} = \frac{r}{r}$

$A \times B = \{(1, 1), (1, 2), (2, 1), (2, 2), (3, 1), (3, 2), (3, 3)\}$

$B \times B = \{(1, 1), (1, 2), (2, 1), (2, 2)\}$

$A \times B - B \times B = \{(1, 2), (2, 1)\}$

٩)  $m^r = m + r, m^r - m - r = 0$

$m = -1, \checkmark$

تحقق

١٠)  $m^r = m + r$

$m = -1, x$

تحقق

نلاحظ ان  $m$  متساوي لـ  $m$  في كل مرة

$a^r = r a - r$

$a^r - r a + r = 0$

$(a-1)(a-r) = 0 \Rightarrow$

$a = r$

$a = 1, x$

$f(x) = \begin{cases} x^{r-1} & x \leq 1 \\ a x + b & 1 < x \leq r \end{cases}$

$x = 1 \Rightarrow$

$1-1 = a \times 1 + b = 0$

$\Rightarrow a = 1, b = -1$

$r(r-r) = r-r$

$a r = r$

$r = 1, r$