

$$r^2 = k(1+b) \Rightarrow b = 1/r \Rightarrow k = \frac{b^2}{1} \Rightarrow b = \pm r$$

$$b = r \Rightarrow c = \frac{r}{1} = r$$

$$b = -r \Rightarrow c = \frac{-r}{1} = -r$$

$$1+b=0 \Rightarrow r = -\frac{1}{b} \Rightarrow r = R = (-\frac{1}{b})$$

$$r = kb$$

$$\frac{ab}{c} = \begin{cases} b \cdot r \Rightarrow a = \frac{b}{r} = \frac{1}{r} & c = \frac{1}{r} \\ b = -r \Rightarrow a = \frac{b}{r} = \frac{1}{r} & c = -\frac{1}{r} \end{cases}$$

$$\frac{ab}{c} = \frac{(\frac{1}{r})(-r)}{-\frac{1}{r}} = r$$

$$f = \{(-1, 2), (1, 1), (3, -1), (0, \frac{1}{r})\}$$

$$g = \{(1, 1), (2, 1), (1, -1), (0, 0)\}$$

$$g+f = \{(-1, 0), (2, 1), (1, 2)\}$$

$$f+g = \{(1, 1), (3, 2)\}$$

$$a = -1$$

$$1 = ra - rb \Rightarrow 1 = -r - rb \Rightarrow r = -rb \Rightarrow r = -1$$

$$a - rb = c \Rightarrow -1 - (-1) = c \Rightarrow c = 0$$

$$d = 1$$

$$d + c = 1 + 0 = 1$$

$$x^2 - x + m = 0 \Rightarrow$$

$$x \in \left(\frac{1 - \sqrt{1-4m}}{2}, \frac{1 + \sqrt{1-4m}}{2} \right)$$

$$a+b = \frac{1 - \sqrt{1-4m} + 1 + \sqrt{1-4m}}{2} = 1$$

$$(x+a)(x-c) = r(x^2+bx+b) \Rightarrow rx^2 - rx(c+a) + ac =$$

$$rx^2 + (-r(c+a))x - ac$$

$$rx^2 + rx + rb$$

$$a = r + rc$$

$$a + b + c = r - c - rc$$

$$b = -c - rc$$

۱) $f(x) = D_f = [0, +\infty)$ $D_g = \mathbb{R}$ $g(x) \rightarrow D_g = \mathbb{R}$ $f(x) \rightarrow D_f = \mathbb{R}$

۲) $f(x) \rightarrow D_f = \mathbb{R}$ $g(x) \rightarrow D_g = \mathbb{R}$

۳) $f(x) \rightarrow \mathbb{R} \Rightarrow \sin x \neq \frac{3}{4}$ $g(x) \Rightarrow [-2, 2]$

۴) $f(x), g(x) \rightarrow D_f \cap D_g \rightarrow \mathbb{R} - \{0\}$

۵) $f(x) \rightarrow D_f = \mathbb{R}$ $g(x) = D_g = \mathbb{R}$

۶) $f(x) \rightarrow (-\infty, \frac{1}{4}] \cup [\frac{1}{4}, +\infty)$ $g(x) \rightarrow (-\infty, 0) \cup (0, +\infty)$

۷) $f(x) \rightarrow D_f = \emptyset$ $g(x) = (-\infty, 0)$

۸) $f(x), g(x)$

$f(x) + g(x) = x^2 + x + 1$ $f'(x) - g'(x) = x^2 - x + 1$

$2f(x) = 2x^2 + 2 \Rightarrow f(x) = x^2 + 1 \Rightarrow g(x) = x$

$f(x), g(x) \rightarrow [-\infty, -2] \cup [2, +\infty) \rightarrow [-2, 2]$

$f(x), g(x) \rightarrow \{(2, 2), (-2, -2)\} \cap \{(2, 2), (-2, -2)\} \rightarrow \{(2, 2), (-2, -2)\}$

$(x - \frac{a}{p})(x + 1)$

$x^2 + x - \frac{a}{p} x - \frac{a}{p}$

$x^2 - \frac{p}{p} x - \frac{a}{p}$

$m = \frac{p}{p}$ $n = \frac{-a}{p}$

$x = 0$ $1 - (-2) = a + 1 \Rightarrow a = 1$

$-b = 2 \Rightarrow b = -2$

$a^m - b^n = \frac{p}{p} - (-2)(\frac{-a}{p}) = -\frac{3}{p}$