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$$(الف) y = x^2 - 2x + 4 \rightarrow \frac{-b}{2a} = \frac{2}{2} = 1 \quad (3) \quad y = -1 \quad [-1, +\infty)$$

$$(ب) y = x^2 + 4x + 4 \rightarrow \frac{-b}{2a} = \frac{-4}{2} = -2 \quad (4) \quad y = 1 \quad (-\infty, 1]$$

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$$(الف) y = x^2 - 4x + 2 \rightarrow \frac{-b}{2a} = \frac{4}{2} = 2 \quad (3) \quad y = -1 \quad [0, +\infty)$$

إحداثيات النقطتين

$$(ب) y = x^2 + 4x + 10 \rightarrow \frac{-b}{2a} = \frac{-4}{2} = -2 \quad (4) \quad y = -1 \quad \emptyset$$

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$$(الف) Rf = R$$

$$(ب) [0, +\infty)$$

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$$(الف) R = \left(\frac{3}{1} \right)$$

$$(ب) R = \left(\frac{2}{1} \right)$$

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$$(الف)$$

$$(ب)$$

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$$(الف) [2, +\infty)$$

$$(ب) (-\infty, 2]$$

سید علی بن ابی طالب

(1) $y = x^2 - a \rightarrow \sqrt{x^2 + y + a} \rightarrow x = \sqrt{y + a} \rightarrow y + a = x^2$

$$y_1 = a$$

$$(-\infty, a)$$

ب) $y = x^2 + 1 \rightarrow \sqrt{x^2 + y - 1} = (1B)$

(2) ا) $y = x^2 - 5x + 1 \rightarrow y - 1 = x^2 - 5x$

$$\frac{y - 1}{x^2 - 5} = x \left(\frac{x^2 - 5}{x^2 - 5} \right)$$

ب) $x^2 - 5x + 1$

$$y = x^2 - 1 = x^2 - 5x + 1$$

$$\frac{y - 1}{x^2 - 5} = x \left(\frac{x^2 - 5}{x^2 - 5} \right)$$

(3) ا) $y = \frac{x^2 + 1}{x^2 - 5} \rightarrow y(x^2 - 5) = x^2 + 1$

$$y(x^2 - 5) = x^2 + 1$$

$$\frac{x^2(y - 1)}{y - 1} = \frac{x^2 + 1}{y - 1}$$

ب) $y = \frac{x^2 + 1}{x^2 - 5} = y(x^2 - 5) = x^2 + 1$

$$y(x^2 - 5) = x^2 + 1$$

$$yx^2 - 5y = x^2 + 1$$

$$\frac{x^2(y - 1)}{y - 1} = \frac{x^2 + 1}{y - 1}$$

$$yx^2 - 5xy = 1$$

$$\frac{x^2(y - 5y)}{yx^2 - 5y} = \frac{1}{yx^2 - 5y}$$