⑤ p 167

$\sqrt[4]{x^4} = \sqrt[4]{256}$

$x = \pm 4$

4	1	0	0	0	−256
		4	16	64	256
	1	4	16	64	0
−4		−4	0	−64	
	1	0	16	0	
	x^2	x	c	R	

$x^2 + 16 = 0$

$-16 \quad -16$

$\sqrt{x^2} = \sqrt{-16}$

$x = \pm 4i$

$x = \pm 4$

49. $f(x) = x^4 + 3x^3 - 5x^2 - 21x + 22$

p168 $-3+i\sqrt{2}$ $-3-i\sqrt{2}$

$-3+i\sqrt{2}$	1	3	-5	-21	22
	$-3+i\sqrt{2}$	$-3i\sqrt{2}-2$	$27+2i\sqrt{2}$	-22

$-3-i\sqrt{2}$	1	$i\sqrt{2}$	$-7-3i\sqrt{2}$	$6+2i\sqrt{2}$	0
	$-3-i\sqrt{2}$	$9+3i\sqrt{2}$	$-6-2i\sqrt{2}$

1	-3	2	0
x^2	x	c	R

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

$(x-2)(x-1) = 0$

$x-2=0$ $x-1=0$

$x = 2$ $x = 1$

$x = -3 \pm i\sqrt{2}$

2.7

Vertical Asymptotes

Denominator — division by zero

$$y = \frac{1}{x-2}$$

$$x \neq 2$$

Horizontal Asymptotes

$$f(x) = \frac{a_n x^n + a_{n-1}x^{n-1} + \dots a_1 x + a_0}{b_m x^m + b_{m-1}x^{m-1} + \dots b_1 x + b_0}$$

$\frac{x^2}{x^3}$

1. If $n < m$ x-axis ← $\frac{x^2}{x^3}$
2. If $n = m$ line $y = \frac{a_n}{b_m}$

leading coefficients

3. If $n > m$ no horizontal asymptote

Slant Asymptote

Degree of numerator is exactly one more than the degree of the denominator.

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