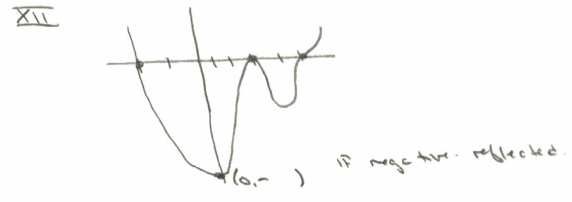


Answers to Review Sheets

Polynomial Review

- I -2
- II -2, $\frac{-7 \pm \sqrt{37}}{2}$
- III $(x+4)(x+2)(x-1)$
- IV $(x+2)(x-\frac{2}{3})(x-3)(x+1)$
- V positive roots $\pm 1 \pm \frac{1}{2} \pm \frac{1}{4}$
- I $k = -2$
- II double root $\omega = -2$

- VIII $y = x^3 - 4x^2 + 30x - 52$
(use sum & product then substitute so that $P(2) = 0$)
- IX double root $\omega = -1$, roots $\omega = 2, \pm 2i$
- X $2x^2 + 5x^2 + 18x + 45 = 0$
- XI between 0 & 1



Checking Main Ideas 2-5, 2-6, 2-7

- 2. 2, 3
- 3. roots $\omega = 0, \pm i, -3$
- 4. A
- 5. 5 max 1 min
- Sum = $\frac{-a_{n-1}}{a_n} = \frac{0}{2} = 0$
- Product = $\frac{-a_0}{a_n} = \frac{-6}{2} = -3$

- 7. $0 = x^2 + 2x - 4$
- 8. no - coefficients are imaginary

Quick Check

- 1 a) 0, $\frac{1}{2}$ (double) b) $-2 = P(-\frac{1}{2})$
- $x^3 - x^2 - x + 4$ R -5/x+1
- $P(2) = 0 \therefore x-2$ is factor
-
- min ω $x=2$
- graph
- Location Principle
- a) $\pm 2 \pm i$ b) $\pm \sqrt{3}, -1$
- 1, $-\frac{2}{3}, 2$
- 4) Sum = 1 Product = -15
- b) roots $\omega = 2+i \Rightarrow$ let 3rd root be r

Practice Test

- 1) 2, 2) $\frac{11}{21}$ 3) $-1+9i$
- 4) $\frac{-1 \pm \sqrt{13}}{6}$
- 5) $8x^2 + 4x - 4$ R $-\frac{3}{x-1/2}$
- 6) $\pm 1 \pm \frac{1}{2} \pm \frac{1}{4} \pm \frac{1}{8}$
- 7) no since $P(1) \neq 0$
- 8)
- 9) $(x+3)(x-2)^2 = 4$
- 10) $P(2) = 2^4 - 1 = 15 \neq 3$