

EXAM-DAY · 90-MIN REVISION CARD

Polynomials

Print this · Fold it · Carry to the exam-hall gate · Revise once · Then walk in.

FORMULAS & KEY RESULTS

DEGREE: highest power of x.
Constant=0, Linear=1,
Quadratic=2, Cubic=3.

QUADRATIC ax^2+bx+c : Sum
 $\alpha + \beta = -b/a$ · Product $\alpha \beta = c/a$

CUBIC ax^3+bx^2+cx+d : $\alpha + \beta + \gamma = -b/a$ · $\alpha \beta + \beta \gamma + \gamma \alpha = c/a$ · $\alpha \beta \gamma = -d/a$

FORM from zeroes: $k[x^2 - (\text{sum})x + \text{product}]$ for quadratic

GEOMETRIC: zeroes = points
where graph cuts x-axis ($y=0$)

MAX REAL ZEROES = degree
(could be fewer, never more)

TOP 5 PYQ PATTERNS

1 Find zeroes of given quadratic + verify sum/product

3 marks · 45% of years

Factorise by splitting middle term; state a,b,c; verify both formulas explicitly.

2 Form a quadratic from given sum & product / given zeroes

2 marks · 25% of years

Write $k[x^2 - (\text{sum})x + \text{product}]$; take $k = 1$ unless asked otherwise.

3 Find unknown coefficient given a condition on zeroes (reciprocal, equal magnitude opposite sign, ratio)

3 marks · 15% of years

Translate condition into $\alpha \beta$ or $\alpha + \beta$; substitute into formulas; solve.

4 Geometric meaning — count zeroes from a given graph

1 mark · 10% of years

Count x-axis intersections; tangent point = 1 (repeated).

5 Cubic — apply Vieta's three relations

3 marks · 5% of years

Memorise: $-b/a$, $+c/a$, $-d/a$ for sum, sum-of-pairs, product.

90-MIN REVISION FLOW

0-15 min

Re-read formulas grid; recite Vieta's relations for quadratic and cubic aloud $3\times$.

15-35 min

Solve 5 PYQ-style 'find zeroes + verify' questions from drill sheet.

35-55 min

Solve 3 'form polynomial from given zeroes' + 2 'find unknown coefficient' questions.

55-75 min

Practise 1 cubic Vieta question; sketch 4 parabola cases (2/1/0 zeroes, repeated root).

75-90 min

Review misconceptions list; re-do any question you missed; close the day with the cheat-sheet.

Confidence, not anxiety. You've practised this all year. Trust your steps. Don't change strategy on exam morning.
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