

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 – MARCH 2008
ROUND 3 ALG 2: POLYNOMIAL FUNCTIONS

ANSWERS

A) _____

B) _____

C) _____

A) $x^3 + kx^2 - 13x + 6$ divided by $x - 2$ produces a remainder of k . Determine the value of k .

B) When the polynomial $p(x)$ is divided by $(x - 1)$, the quotient is $Q(x)$ and the remainder is 1.
When $p(x)$ is divided by $(x + 1)$, the remainder is 7. Find $Q(-1)$

C) Find the cubic equation whose roots are 1 less than the reciprocals of the roots of

$$2x^3 - 5x^2 - 4x + 3 = 0.$$