

## Alg2 Quiz 5.2B & 5.2C

Grade	Comment
35.25 /50	<p>Very good work, solid mastery.</p> <p><b>★ Strengths</b></p> <ul style="list-style-type: none"> <li>• You use the remainder idea with polynomials very well and choose appropriate methods (like synthetic division) with confidence.</li> <li>• You are able to rewrite a division of polynomials clearly as “quotient plus remainder,” which shows strong understanding.</li> </ul> <p><b>🔧 Top priorities for improvement</b></p> <ul style="list-style-type: none"> <li>• Always finish the job: write the full final answer (all factors, quotient and remainder) so your good work is visible.</li> <li>• Add a brief written justification for your choices and double-check signs to avoid small, avoidable errors.</li> </ul>
<b>Detailed results</b>	
1.	2/3 Chose D correctly and used synthetic division, but your work only tests polynomial A and shows 2 is not its zero. Nothing verifies D. -1: incomplete reasoning/work for chosen polynomial.
1.	1/3 Selected B, the correct description of Cam's mistake, but gave no explanation about the missing zero coefficient in his setup. -2: no supporting work or explanation as required.
1.	3/3 You correctly found the remainder 3 using synthetic division with $x = -\frac{1}{2}$ and chose answer D. Your earlier long-division attempt was incorrect, but it was <i>not</i> penalized, so your final result is fully credited.
1.	5.5/6 Way 1 Set up long division correctly and reached quotient $x^3 + 2x^2 - x - 2$ with remainder 0, but some products with $(x - 5)$ in the tableau had sign mistakes. -0.5: inconsistent signs
Way 2	3/3 Used synthetic division with 5 correctly, obtained row 1, 2, -1, -2, 0, and interpreted it as quotient $x^3 + 2x^2 - x - 2$ with remainder 0. Nice work.
1.	0/6 No work or answer was given for factoring the volume polynomial, so the remaining dimensions of the prism were not found. -6: question left blank, no attempt.
1.	4/4 Correctly used synthetic division with $p = 1$ to divide by $p - 1$ , found the quotient $4p^2 + p + 3$ and remainder 3, and wrote the result in quotient-plus-remainder form.
1.	4/4

Set up synthetic division with 3 and full coefficients.

Performed all steps accurately, and correctly identified 431 as the remainder when dividing by  $x - 3$ .

1.

2.75/6

a.

1/4

Set up division of  $x^5 + 1$  by  $x - 2$  with placeholders, which is a good start.

However, you did not perform the division or state the quotient and remainder.

-3: missing division steps and final quotient.

b.

1.75/2

Used synthetic division and correctly decided  $g(x)$  is not a factor, but made an addition error, giving remainder 65 instead of 33.

-0.25: arithmetic mistake in synthetic division.

1.

6/7

You correctly carried out the long division to find the quotient  $2x^3 + x - 3$ .

However, a copied sign error in the divisor led to a remainder of  $2x$  instead of  $4x$ .

-1: sign/copying error affecting remainder

1.

4/4

Used synthetic division with 2 correctly,  
formed equation  $k - 10 = -2$  from the zero remainder condition,  
and solved to get  $k = 8$ , which is clearly stated.

1.

3/4

Correctly used synthetic division with -3 and found the quadratic factor  $2x^2 - 5x + 7$ ,  
but the final answer omitted the  $(x + 3)$  factor.

-1: incomplete final factorization of  $f(x)$

## Skills Mastery

NC.M3.A-APR.2 - Understand and apply the Remainder Theorem.



NC.M3.A-APR.6 - Rewrite simple rational expressions in different forms; write  $a(x)/b(x)$  in the form  $q(x) + r(x)/b(x)$ , where  $a(x)$ ,  $b(x)$ ,  $q(x)$ , and  $r(x)$  are polynomials with the degree of  $r(x)$  less than the degree of  $b(x)$ .

