

**Please do not write in the margins of the page!**  
**Show all of your work on this paper: you are being graded on your work. No other paper may be used during this quiz.**

- 1) Divide, using long division: write your quotient and remainder in the spaces below.

$$\frac{8x^3+18x^2+21x+18}{2x+3}$$

Quotient:

Remainder:

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divide here:

2) Divide, using synthetic division:  $\frac{x^4 - 3x^2 - 5x + 2}{x - 2}$

Quotient:

Remainder:

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divide here:

3) Using the remainder theorem, **without using either long division or synthetic division**, find the remainder you would get dividing  $x^{20} - 6x^{10} + 9$  by  $x - 1$