Lesson 4.2 Reflection

I can . . .

☐ determine if a given factor is a factor of another polynomial.

☐ rewrite a polynomial as a product of two other polynomials.

☐ use synthetic division.

☐ polynomial long division.

Lesson 4.2 Homework Problems

Q1 Is $x - 1$ a factor of $x^4 - 3x^3 + 6x^2 - 12x + 8$?

Q2 Is $x - 1$ a factor of
$x^4 + 6x^3 - 12x^2 - 38x - 21$?

Q3 Is $x - 3$ a factor of $x^3 + 12x^2 + 17x - 30$?

Q4 Is $x + 4$ a factor of $2x^3 + 7x^2 - 10x - 24$?

Determine each quotient using polynomial long division or synthetic division. Write the dividend as the product of the divisor and the quotient plus the remainder.

Q5
$$x - 4 \overline{)\; 2x^3 - 7x^2 - 19x + 60}$$

Q6
$$x + 2 \overline{)\; 3x^3 + 5x^2 - 2x}$$

Q7 $\dfrac{x^4 - 3x^3 + 6x^2 - 12x + 8}{x - 1}$

Q8 $(x^3 + x^2 - 16x - 16) \div (x + 2)$