L2 Factoring Polynomials again

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Lesson 2 Factoring Polynomials…again

Example 1

Factor:

a) $6a^4 + 7a^2 - 10$

P -60
S 7
F $\frac{-5}{1}, \frac{12}{6}$

$(a^2 + 2)(6a^2 - 5)$

b) $\frac{1}{4}x^2 - x - 3$

$\frac{1}{4}(x^2 - 4x - 12)$

$\frac{1}{4}(x - 6)(x + 2)$

c) $x^2 - \frac{17}{3}x - 2$

$\frac{1}{3}(3x^2 - 17x - 6)$

P -18
S -17
F $\frac{-18}{3}, \frac{1}{1}$

$\frac{1}{3}(3x + 1)(x - 6)$

d) $2x^{-2} - 7x^{-3} + 3x^{-4}$

$x^{-4}(2x^2 - 7x + 3)$

P 6
S -7
F $\frac{-6}{2}, \frac{-1}{1}$

$x^{-4}(2x - 1)(x - 3)$

$x^{-4} = \frac{1}{x^4}$

e) $x^{2n} + 7x^n + 12$

$(x^n + 3)(x^n + 4)$

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#9b, d, f, h
Try 14c, e, f

Ans
9b) $\frac{1}{9}(3x - 1)(3x - 2)$
d) $\frac{1}{4}x(x - 8)(x + 4)$
f) $(x^{3n} - 1)(x^{3n} - 2)$
h) $(y^n - 2y^m)(y^n - 5y^m)$

Example 2: Using Patterns to Factor

Factor each polynomial expression:

a) $(x + 3)^2 - 6(x + 3) - 16$

b) $2(x-6)^2+10(x-6)-48$

c) $3(2x+5)^2+10(2x+5)-8$

Example 3: Factor, using patterns

a) $(3x+4)^2-(2y-1)^2$

b) $27(2x-3)^2-75(y-4)^2$

c) $32(x+2)^2 - 18(2y-3)^2$

d) $(4x^2 + 4xy + y^2) - 9z^2$