Polynomial Operations

1. Rewrite each expression as a polynomial in standard form.

a) $\frac{(x^2+5x+20)\ (x^2+6x-6)}{x+2}$

b) $(x^2-4)(x+3)-(x^2+2x-5)$

c) $\frac{(x-3)^3}{x^2-6x+9}$

d) $(3x-4)^3$

e) $(x^2-5x+2)(x-3)$

f) $\frac{x^4-x^3-6x^2-9x+2}{x-3}$

g) $(x+3)^2-(x+4)^2$

h) $\frac{x^2-5x+6}{x-3}+\frac{x^3-1}{x-1}$

Polynomial Operations

1. Rewrite each expression as a polynomial in standard form.

a) $\frac{(x^2+5x+20)+(x^2+6x-6)}{x+2}$

$2x + 7$

b) $(x^2 - 4)(x + 3) - (x^2 + 2x - 5)$

$x^3 + 2x^2 - 6x - 7$

c) $\frac{(x-3)^3}{x^2 - 6x + 9}$

$x - 3$

d) $(3x - 4)^3$

$27x^3 - 108x^2 + 144x - 64$

e) $(x^2 - 5x + 2)(x - 3)$

$x^3 - 8x^2 + 17x - 6$

f) $\frac{x^4-x^3-6x^2-9x+27}{x-3}$

$x^3 + 2x^2 - 9$

g) $(x + 3)^2 - (x + 4)^2$

$-2x - 7$

h) $\frac{x^2 - 5x + 6}{x - 3} + \frac{x^3 - 1}{x - 1}$

$x^2 + 2x - 1$