

# Hills and Valleys ... Reloaded



Binomial x binomial = 4 terms

Binomial x trinomial = 6 terms

Trinomial x trinomial = 9 terms etc.

1) Expand and simplify the following (FOIL no longer applies ... too many terms 😞)

a)  $(3x - 2)(5x^2 - 3x + 1)$

$$(3x - 2)(5x^2 - 3x + 1)$$

$$\begin{array}{r} 15x^3 - 9x^2 + 3x \\ -10x^2 + 6x - 2 \\ \hline 15x^3 - 19x^2 + 9x - 2 \end{array}$$

b)  $2x(x - 2)(6x^2 - 7x + 2)$

deal with the 2x last

$$2x(x - 2)(6x^2 - 7x + 2)$$

$$\begin{array}{r} 6x^3 - 7x^2 + 2x \\ -12x^2 + 14x - 4 \\ \hline 2x(6x^3 - 19x^2 + 16x - 4) \\ = 12x^4 - 38x^3 + 32x^2 - 8x \end{array}$$

c)  $(x^2 - 8x + 3)(2x^2 + 5x - 1)$

tri x tri oh my

$$(x^2 - 8x + 3)(2x^2 + 5x - 1)$$

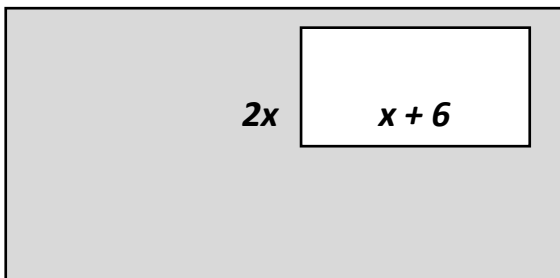
$$\begin{array}{r} 2x^4 + 5x^3 - x^2 \\ -16x^3 - 40x^2 + 8x \\ \hline 6x^2 + 15x - 3 \\ 2x^4 - 11x^3 - 35x^2 + 23x - 3 \end{array}$$

Do those arrows even help??

2) Find the shaded area

$$2x^2 - 7x + 12$$

$$5x - 9$$



$$A = \text{length} \times \text{width}$$

$$A = (5x - 9)(2x^2 - 7x + 12) - 2x(x + 6)$$

(no arrows here ... just doin' it)

$$\begin{array}{r} A = 10x^3 - 35x^2 + 60x \\ -18x^2 + 63x - 108 \\ \hline -2x^2 - 12x \end{array}$$

$$A = 10x^3 - 55x^2 + 111x - 108$$

b) Area if  $x = 5$  m

$$10(5)^3 - 55(5)^2 + 111(5) - 108 \quad \text{Area} = 322 \text{ m}^2$$

**ASSIGNMENT TEXT**  
Page 186 #8, 10, 11, 13(a, b), 17, 19