

$$f(x) = x^2(1-x^2)^3$$

Power Rule  
 $uv' + u'v$

$$f'(x) = x^2 \cdot [(1-x^2)^3]' + [x^2]'(1-x^2)^3$$

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

$$= -6x^3(1-x^2)^2 + 2x(1-x^2)^3$$

$$= -6x^3(1-2x+x^4) + 2x(1-3x^2+3x^4-x^6)$$

$$= -6x^3(x^4-2x^2+1) + 2x(x^6+3x^4-3x^2+1)$$

$$= -6x^7 + 12x^5 - 6x^3 - 2x + 6x^7 - 6x^5 + 12x^3 - 2x$$

$$(A-B)^3 = A^3 - 3A^2B + 3AB^2 + B^3$$

$$f(x) = [x^2(1-x^2)^3]$$

$$f'(x) =$$

$$= -8x^7$$

↑ Degree  
 ↑ Max Term