

1. Write each product as a polynomial in standard form. Show work and box your answer.

$3x^2(4x^3 - 2x^2 + 5x + 2)$	$(0.5x + 3)^2$	$(4x(x - 1))^2$	$(x - 4)(x^2 + 4x + 1)$
$(5x + y)(5x - y)(25x^2 + y^2)$	$(x - 4)^3$	$(2x + 3)^3$	$(5x - 10)^3$

2. Factor each polynomial COMPLETELY. Show work and box your answer.

$4x^3 - 49xy^4$	$6x^2 - 24y^2$	$x^4 - 81$	$18x^3 - 60x^2 + 50x$
$8x^4 + 4x^3 - 72x^2 - 36x$	$64x^3 - 1$	$8x^3 + 27$	$64x^3y^2 + 27y^8$

3. Factor each polynomial completely to SOLVE. Show work and box your answer.

$x^2 + 7x - 18 = 0$	$4x^2 - 25 = 0$	$6x^3 + 31x^2 = -35x$	$x^3 - 9x = 0$
$16x - 6x^2 - x^3 = 0$	$x^4 - 13x^2 + 36 = 0$	$3x^3 + 36x^2 = 3x^4$	$x^3 + 27 = 0$ (hint: you have to use quad. Formula on the trinomial)