April 15, 2016

$15t^2 + 16t - 15$ $\quad ac = -225 \quad b = 16$

$15t^2 + 25t - 9t - 15$

$5t(3t+5) - 3(3t+5)$

$(3t+5)(5t-3)$

| + | − | |
|---|---|---|
| 20 | 4 | −80 |
| 22 | 6 | −132 |
| 30 | 14 | −390 |
| 25 | 9 | −225 |

16

Apr 15-9:03 AM

Exam # 3 - Tuesday
April 22, 2016

Apr 15-9:13 AM

## Difference of Two Squares

$a^2 - b^2 = (a+b)(a-b)$

$a^2$ and $b^2$: Two Squares; "−": Difference; $(a+b)(a-b)$: Factored Form

$36x^2 - 81$

$a^2$: $a' = 6x$; $b^2$: $b' = 9$

$(6x+9)(6x-9)$

Apr 15-9:22 AM

$x^2 - 1$

$a' = x$, $b' = 1$ $\quad (x+1)(x-1)$

$x^2 - x + x - 1$ (F O I L)

O.I.

$x^2 - 1$ ✓

Apr 15-9:30 AM

$25 - a^2b^2$

$a' = 5$, $b' = ab$ $\quad (5+ab)(5-ab)$

$144y^2 - 4$

$a = 12y$, $b = 2$ $\quad (12y+2)(12y-2)$

$16x^4 - 49$

$a' = 4x^2$, $b = 7$ $\quad (4x^2+7)(4x^2-7)$

$16x^4 - 28x^2 + 28x^2 - 49$ (F O I L)

$16x^4 - 49$ ✓

Apr 15-9:32 AM

## Difference / Sum of Two Cubes

① Difference

$(a-b)(a^2+ab+b^2)$

$= a^3 + a^2b + ab^2 - a^2b - ab^2 - b^3$

$= a^3 - b^3$

Two Cubes

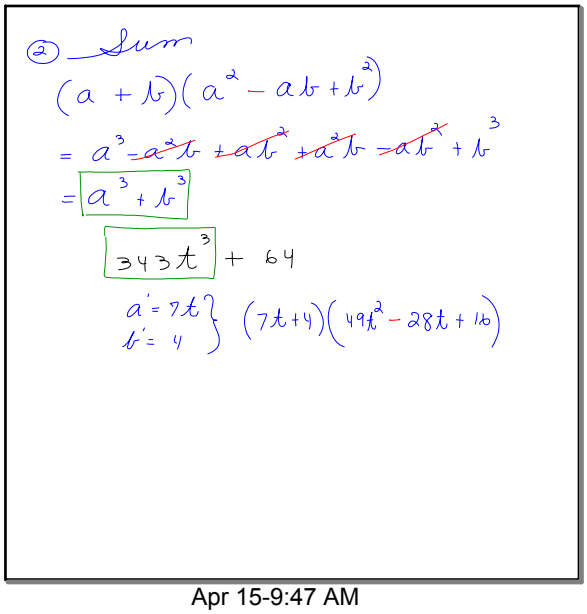
$x^3 - 8 = (x-2)(x^2+2x+4)$

$a' = x$, $b' = 2$

$27y^3 - 125$

$a' = 3y$, $b' = 5$ $\quad (3y-5)(9y^2+15y+25)$

Apr 15-9:37 AM


② Sum
$(a+b)(a^2-ab+b^2)$
$= a^3 - a^2b + ab^2 + a^2b - ab^2 + b^3$
$= a^3 + b^3$
$343t^3 + 64$
$a = 7t$
$b = 4$
$(7t+4)(49t^2 - 28t + 16)$

Apr 15-9:47 AM