

April 13, 2015

10.7
#19) $i^{-37} = \frac{1}{i^{37}} = \frac{1}{(i^4)^9 \cdot i}$

$\frac{37}{4} = 9 \text{ R } 1$

$= \frac{1}{i}$

$\frac{1}{i} \cdot \frac{-i}{-i} = \frac{-i}{-i^2} = \frac{-i}{(-1) \cdot (-1)} = \frac{-i}{1}$

$-i$

Apr 13-9:53 AM

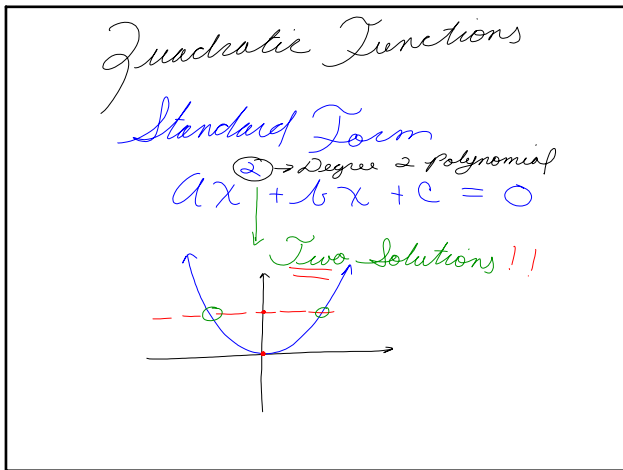
#20) $i^{12} - i^{22}$

$(i^4)^3 - (i^4)^5 \cdot i^2$

$1(-1) \cdot (-1)$

$1 + 1 = 2$

Apr 13-10:08 AM



Apr 13-10:11 AM

- $x^2 - 4 = 0$
- Methods to Solve Quadratics
- ① Factoring
 - ② Square Root Property
 - ③ Completing the Square
 - ④ Quadratic Formula

Apr 13-10:15 AM

$x^2 - 4 = 0$

* Solve by using the Square Root Property

a) Get squared term isolated

$x^2 = 4$

b) Square both sides

$\sqrt{x^2} = \pm \sqrt{4}$

$x = \pm 2$

① $x = 2$

② $x = -2$

Check

$x = -2$

$(-2)^2 - 4 = 0$

$4 - 4 = 0$

$0 = 0$

$x = 2$

$(2)^2 - 4 = 0$

$4 - 4 = 0$

$0 = 0$

Apr 13-10:19 AM

$x^2 - 7 = 0$

$\sqrt{x^2} = \pm \sqrt{7}$

$x = \pm \sqrt{7}$

Ok

$x = -\sqrt{7}$

$(-\sqrt{7})^2 - 7 = 0$

$(-\sqrt{7})(-\sqrt{7}) - 7 = 0$

$\sqrt{49} - 7 = 0$

$7 - 7 = 0$

$0 = 0$

Apr 13-10:25 AM

$$\begin{aligned}
 (x-5)^2 + 2 &= 0 \\
 \sqrt{(x-5)^2} &= \pm \sqrt{-2} \\
 x-5 &= \pm i\sqrt{2} \\
 \text{ch } x &= 5 \pm i\sqrt{2} \\
 x &= 5 - i\sqrt{2} \\
 (\cancel{5} - i\sqrt{2} - \cancel{5})^2 + 2 &= 0 \\
 (-i\sqrt{2})^2 + 2 &= 0 \\
 (-i\sqrt{2})(-i\sqrt{2}) + 2 &= 0 \\
 i^2 \cdot 2 + 2 &= 0 \\
 (-1) \cdot 2 + 2 &= 0 \\
 -2 + 2 &= 0 \\
 0 &= 0 \text{ or }
 \end{aligned}$$

Apr 13-10:28 AM

$$\begin{aligned}
 (2x-5)^2 + 16 &= 0 \\
 \sqrt{(2x-5)^2} &= \pm \sqrt{-16} \\
 2x-5 &= \pm 4i \\
 2x &= 5 \pm 4i \\
 x &= \frac{5 \pm 4i}{2} \\
 x &= \frac{5}{2} \pm 2i
 \end{aligned}$$

Apr 13-10:35 AM

$$\begin{aligned}
 x &= \frac{5-4i}{2} \\
 (2x-5)^2 + 16 &= 0 \\
 (\cancel{2} \frac{5-4i}{\cancel{2}} - 5)^2 + 16 &= 0 \\
 (\cancel{5} - 4i - \cancel{5})^2 + 16 &= 0 \\
 (-4i)^2 + 16 &= 0 \\
 16i^2 + 16 &= 0 \\
 -16 + 16 &= 0 \\
 0 &= 0 \text{ or }
 \end{aligned}$$

Apr 13-10:40 AM

Do tonight w/ checks!

- ① $x^2 - 11 = 0$
- ② $x^2 + 6 = 0$
- ③ $(x-3)^2 + 5 = 0$
- ④ $(3x-2)^2 - 7 = 0$
- ⑤ $(7x+3)^2 = 0$

Apr 13-10:45 AM