

April 10, 2015

10.7
#8) $\sqrt{-10} \cdot \sqrt{-15}$
 $i\sqrt{10} \cdot i\sqrt{15}$
 $i^2 \cdot \sqrt{150}$
 $(-1) \cdot \sqrt{25 \cdot 6}$
 $-5\sqrt{6}$ \odot

Apr 10-9:52 AM

#4) $-\frac{2i}{3} = -\frac{2}{3}i$
 $= 0 - \frac{2}{3}i$

Apr 10-9:58 AM

Exam #3 - April 22 (Wed)
 Tinal - May 1 (Friday)

Apr 10-10:12 AM

$-\frac{7}{i} \cdot \frac{-i}{-i} = \frac{7i}{-i^2}$
 $= \frac{7i}{-(-1)} = \frac{7i}{1}$
 $0 + 7i$

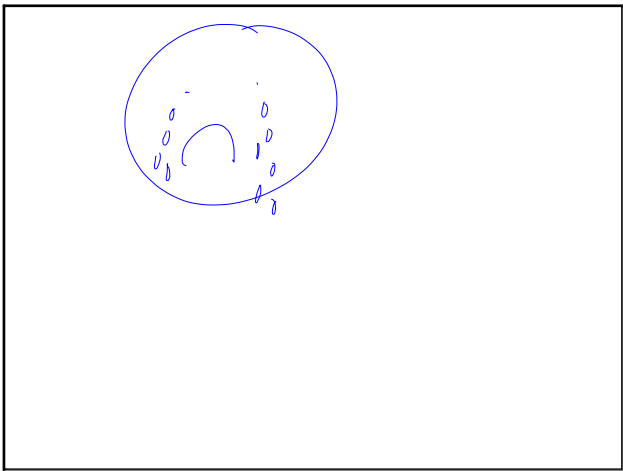
Apr 10-10:17 AM

$\sqrt{-49} \cdot \sqrt{-81}$
 $7i \cdot 9i$
 $63i^2 = -63$
 $-63 + 0i$
 $a + bi$

Apr 10-10:20 AM

$(5 + 6i) - (3 - 4i)$
 $5 + 6i - 3 + 4i$
 $(5 + (-3)) + (6 + 4)i$
 $2 + 10i$

Apr 10-10:22 AM



Apr 10-10:24 AM

$$\begin{aligned} \sqrt{-1} &= i \\ i^2 &= -1 \\ i^3 &= i^2 \cdot i = (-1) \cdot i = -i \\ i^4 &= i^2 \cdot i^2 = (-1) \cdot (-1) = 1 \\ \hline i^5 &= i^4 \cdot i^1 = 1 \cdot i = i \\ i^9 &= i^4 \cdot i^5 \\ &= (1) \cdot i^4 \cdot i^1 \\ &= (1) \cdot (1) \cdot i = i \end{aligned}$$

Apr 10-10:24 AM

$$\begin{aligned} i^{63} &= (i^4)^{15} \cdot i^3 \\ \frac{63}{4} &= 15 \text{ r } 3 \\ &= (1)^{15} \cdot i^2 \cdot i^1 \\ &= 1 \cdot (-1) \cdot i \\ &= -i \end{aligned}$$

Apr 10-10:30 AM

(4)

i^4	$\frac{4}{4} = 1$	r	0	1
$i^5 = i^4 \cdot i^1$	$\frac{5}{4} = 1$	r	1	i
$i^6 = i^4 \cdot i^2 = 1 \cdot (-1)$	$\frac{6}{4} = 1$	r	2	-1
$i^7 = i^4 \cdot i^3 = 1 \cdot (-i)$	$\frac{7}{4} = 1$	r	3	-i
$i^8 = i^4 \cdot i^4 = 1 \cdot 1$	$\frac{8}{4} = 2$	r	0	1
	$\frac{9}{4} = 2$	r	1	
	$\frac{10}{4} = 2$	r	2	
	$\frac{11}{4} = 2$	r	3	
	$\frac{12}{4} = 3$	r	0	

Apr 10-10:34 AM

$$\begin{aligned} i^{462} &= (i^4)^{115} \cdot i^2 \\ \frac{462}{4} &= 115 \text{ r } 2 \\ &= 1 \cdot (-1) \\ &= -1 \end{aligned}$$

Apr 10-10:39 AM

$$\begin{aligned} \frac{i^{-15}}{i^{-23}} &= i^{-15 - (-23)} = i^{-15 + 23} = i^8 = 1 \end{aligned}$$

Apr 10-10:42 AM

$$\frac{2}{i^2 + 2} = \frac{2}{-1 + 2}$$

$$\frac{2}{4} = 5 \text{ } \times \text{ } 3 = \frac{2}{-1 + 2} \cdot \frac{-1 - 2}{-1 - 2}$$

$$\begin{aligned} (-1)(-1) &= +1^2 \\ &= (-1) \end{aligned}$$

$$= \frac{-2i - 4}{1^2 - 4}$$

$$= \frac{-2i - 4}{(-1) - 4}$$

$$= \frac{-2i - 4}{-5}$$

$$= -\frac{4}{5} - \frac{2}{5}i$$

$$= \frac{4}{5} + \frac{2}{5}i$$

Apr 10-10:44 AM