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Web**Assign**CH B.1 (Homework)

Yinglai Wang MA 265 Spring 2013, section 132, Spring 2013 Instructor: Alexandre Eremenko

Current Score : 20 / 20 **Due :** Thursday, April 18 2013 11:40 PM EDT

The due date for this assignment is past. Your work can be viewed below, but no changes can be made.

Important! Before you view the answer key, decide whether or not you plan to request an extension. Your Instructor may *not* grant you an extension if you have viewed the answer key. Automatic extensions are not granted if you have viewed the answer key.

Request Extension View Key

1. 5/5 points | Previous Answers

KolmanLinAlg9 B.1.001.

Let $c_1 = 4 + 4i$, $c_2 = 1 - 3i$, and $c_3 = -1 + i$. Compute each of the following and simplify as much as possible:

- (a) $c_1 + c_2$
- 1
- (b) $c_3 c_1$
- 1
- (c) $c_1 c_2$
- 1
- (d) $c_2 \overline{c_3}$
- **~**
- (e) $4c_3 + \overline{c_2}$
- 1
- (f) $(-i) \cdot c_2$
- 1
- (g) $\overline{3c_1} ic_2$
- 1
- (h) $c_1 c_2 c_3$
- \checkmark

2. 5/5 points | Previous Answers

KolmanLinAlg9 B.1.002.

Write in the form a + bi.

(a)
$$\frac{5+3i}{3-4i}$$

1

(b)
$$\frac{4-2i}{3-i}$$

(c)
$$\frac{(2+i)^2}{i}$$

 \checkmark

(d)
$$\frac{1}{(4+5i)(1+i)}$$

/

3. 5/5 points | Previous Answers

KolmanLinAlg9 B.1.007.

Let

$$A = \begin{bmatrix} 3+3i & -1+2i \\ -3 & 1-i \end{bmatrix}, \quad B = \begin{bmatrix} 2i & 1+3i \\ 0 & 2-i \end{bmatrix}, \quad C = \begin{bmatrix} 2+i \\ -i \end{bmatrix}.$$

Compute each of the following and simplify each entry as a + bi:

(a)
$$A + B$$

3+5i	5i
-3	3-2i



(b)
$$(1 - 2i)C$$

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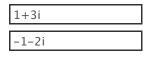


(c) *AB*





(d) *BC*





(e) $A - 2I_2$

1+3i	-1+2i
-3	-1-i



(f) \overline{B}

-2i	1-3i
0	2+i



(g) $A\overline{C}$

7+2i	
-5+4i	



(h)
$$(\overline{A} + \overline{B})C$$

$$6-7i$$

$$-4-6i$$



4. 5/5 points | Previous Answers

KolmanLinAlg9 B.1.009.

If $A = \begin{bmatrix} 0 & i \\ i & 0 \end{bmatrix}$, compute A^2 , A^3 , and A^4 .



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	1	0
A ⁴ =	0	1

Give a general rule for A^n , n a positive integer.

 $A^{4n} = ?$

- Δ
- −A
- $oldsymbol{\bullet}$ I_2

 $A^{4n+1} = ?$

- A
- −A
- $\bigcirc I_2$

 $A^{4n+2} = ?$

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 $A^{4n+3} = ?$









