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### 5.1.6 Exam: Constructing A and b

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Exams due Aug 30, 2023 05:00 IST   Completed

Problem: Find A and b

3.0/3.0 points (graded)

An Initial Value Problem is governed by the following two equations:

$$\frac{du_0}{dt} = 5(u_1 - u_0) + 3(2 - u_0) + 10$$

(5.8)

$$\frac{du_1}{dt} = 4(u_0 - u_1) + 10(1 - u_1) + 2$$

(5.9)

Use our standard notation for an IVP governed by a linear system,

$$\frac{d\underline{u}}{dt} = A\underline{u} + \underline{b}$$

(5.10)

What is the value of  $A_{0,0}$ :

- ☐ -14
- ☒ -8
- ☐ 2
- ☐ 4
- ☐ 5
- ☐ 10
- ☐ 12
- ☐ 16



What is the value of  $A_{0,1}$ :

- ☐ -14
- ☐ -8
- ☐ 2
- ☐ 4
- ☒ 5
- ☐ 10
- ☐ 12
- ☐ 16



What is the value of  $b_0$ :

☐ -14

☐ -8

☐ 2

☐ 4

☐ 5

☐ 10

☐ 12

☒ 16



What is the value of  $A_{1,0}$ :

☐ -14

☐ -8

☐ 2

☒ 4

☐ 5

☐ 10

☐ 12

☐ 16



What is the value of  $A_{1,1}$ :

☒ -14

☐ -8

☐ 2

☐ 4

☐ 5

☐ 10

12

16

What is the value of  $b_1$ :

-14

-8

2

4

5

10

12

16

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Answers are displayed within the problem

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