

Brac University

Semester: Fall 2023  
Course Code: CSE250  
Circuits And Electronics  
Section: 18  
Faculty: SDS

Name:

Set

A



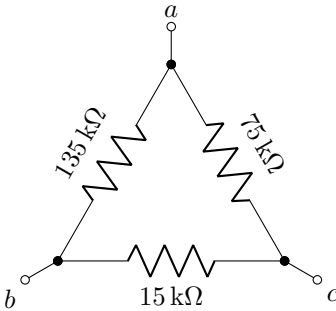
Inspiring Excellence

Assessment: *Class Assignment 1*  
Duration: 1 hour 20 minutes  
Date: September 28, 2023  
Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 questions** are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room, continue on the back page.
- ✓ Symbols have their usual meanings.

Student ID	Answers (1-10)	Answers (11-20)	Answers (21-30)
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◇ Question 1 of 4 [CO3] [5 marks]

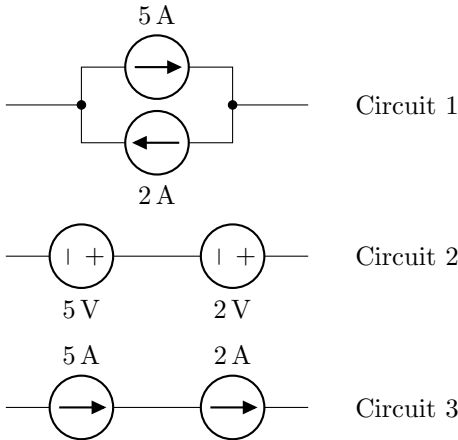


Which of the following statements is true?

- (A)  $R_{ab} = R_{bc} = R_{ca} = 11.441\text{ k}\Omega$
- (B)  $R_{ab} = 135\text{ k}\Omega, R_{bc} = 15\text{ k}\Omega, R_{ca} = 75\text{ k}\Omega$
- (C)  $R_{ab} = 54\text{ k}\Omega, R_{bc} = 14\text{ k}\Omega, R_{ca} = 50\text{ k}\Omega$
- (D)  $R_{ab} = 54\text{ }\Omega, R_{bc} = 14\text{ }\Omega, R_{ca} = 50\text{ }\Omega$
- (E) None of the above

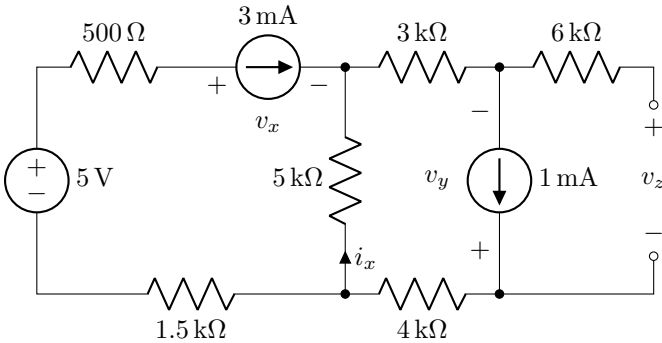
◇ Question 2 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff's laws)?



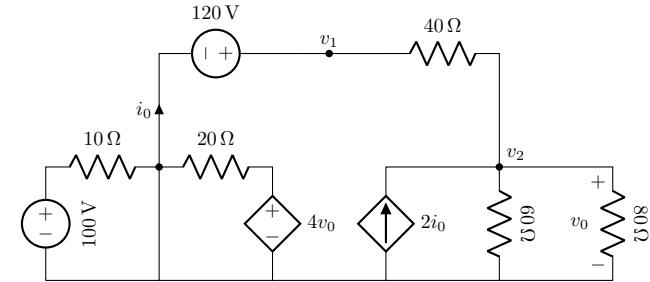
- (A) Circuit 2
- (B) Circuit 3
- (C) Circuit 1
- (D) Circuit 1 & 3
- (E) None of the above

◇ Question 3 of 4     [CO3] [2 marks]



- (A) b
- (B) a
- (C) c

◇ Question 4 of 4     [CO1] [1 mark]



How many nodes are in this circuit?

- (A) 7
- (B) 3
- (C) 5
- (D) 4
- (E) 6

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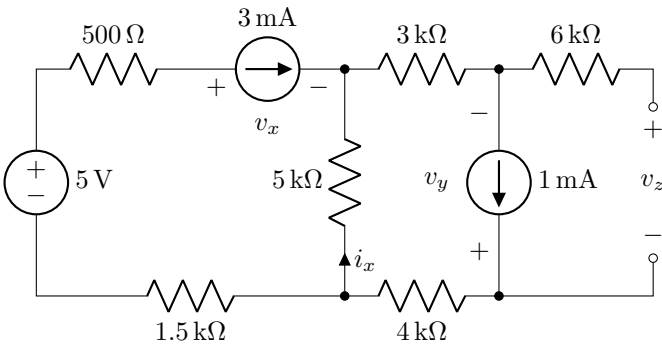
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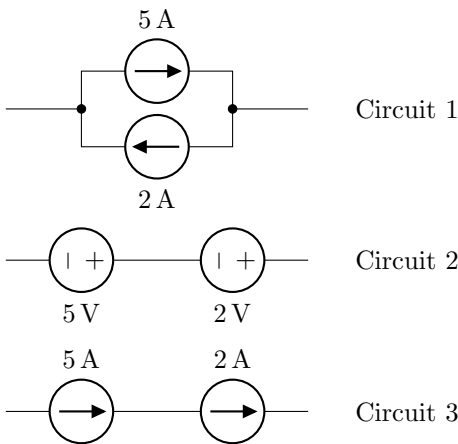
◇ Question 1 of 4 [CO3] [2 marks]



- (A) c  
(B) b  
(C) a

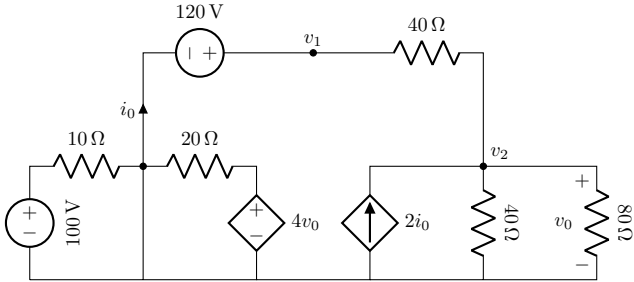
◇ Question 2 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff's laws)?



- (A) Circuit 3  
(B) Circuit 1 & 3  
(C) Circuit 1  
(D) Circuit 2  
(E) None of the above

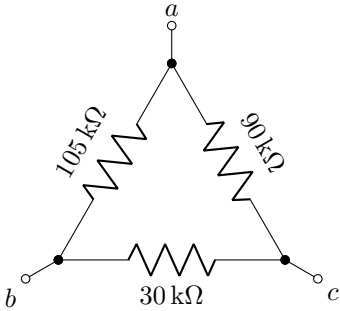
◇ Question 3 of 4 [CO1] [1 mark]



How many nodes are in this circuit?

- (A) 6    (B) 5    (C) 3    (D) 4    (E) 7

◇ Question 4 of 4 [CO3] [5 marks]



Which of the following statements is true?

- (A)  $R_{ab} = 105\text{ k}\Omega, R_{bc} = 30\text{ k}\Omega, R_{ca} = 90\text{ k}\Omega$   
(B)  $R_{ab} = 56\text{ }\Omega, R_{bc} = 26\text{ }\Omega, R_{ca} = 54\text{ }\Omega$   
(C)  $R_{ab} = 56\text{ k}\Omega, R_{bc} = 26\text{ k}\Omega, R_{ca} = 54\text{ k}\Omega$   
(D)  $R_{ab} = R_{bc} = R_{ca} = 18.529\text{ k}\Omega$   
(E) None of the above

Brac University

Semester: Fall 2023

Course Code: CSE250

Circuits And Electronics

Section: 18

Faculty: SDS

Name:

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Assessment: *Class Assignment 1*

Duration: 1 hour 20 minutes

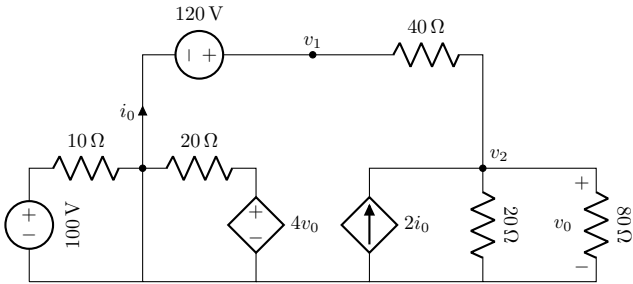
Date: September 28, 2023

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◇ Question 1 of 4 [CO1] [1 mark]

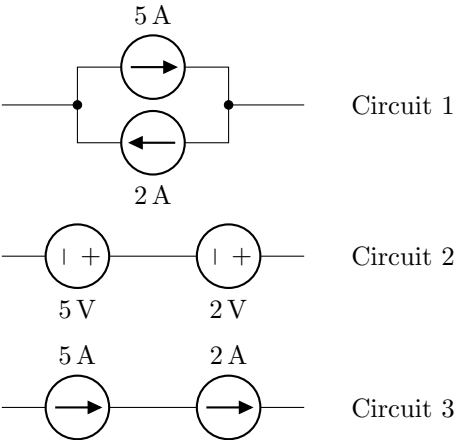


How many nodes are in this circuit?

- ☒ A 5   ☐ B 4   ☐ C 7   ☐ D 6   ☐ E 3

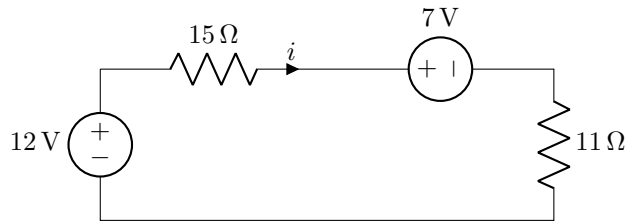
◇ Question 2 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff's laws)?



- ☐ A Circuit 2   ☒ B Circuit 1   ☐ C Circuit 3  
☐ D Circuit 1 & 3   ☐ E None of the above

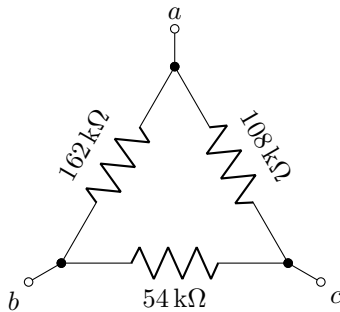
◇ Question 3 of 4 [CO3] [2 marks]



What’s the relation between  $v_1, v_2$  and  $i$ ?

- (A)  $-12 - 15i + 7 + 11i = 0$
- (B)  $-12 + 15i - 7 + 11i = 0$
- (C)  $-12 + 15i + 7 + 11i = 0$
- (D)  $-12 - 15i - 7 + 11i = 0$
- (E) None of the above

◇ Question 4 of 4 [CO3] [5 marks]



Which of the following statements is true?

- (A)  $R_{ab} = R_{bc} = R_{ca} = 29.455\text{ k}\Omega$
- (B)  $R_{ab} = 81\text{ }\Omega, R_{bc} = 45\text{ }\Omega, R_{ca} = 72\text{ }\Omega$
- (C)  $R_{ab} = 162\text{ k}\Omega, R_{bc} = 54\text{ k}\Omega, R_{ca} = 108\text{ k}\Omega$
- (D)  $R_{ab} = 81\text{ k}\Omega, R_{bc} = 45\text{ k}\Omega, R_{ca} = 72\text{ k}\Omega$
- (E) None of the above



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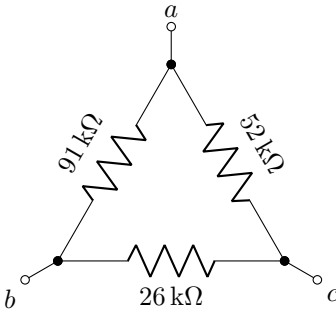
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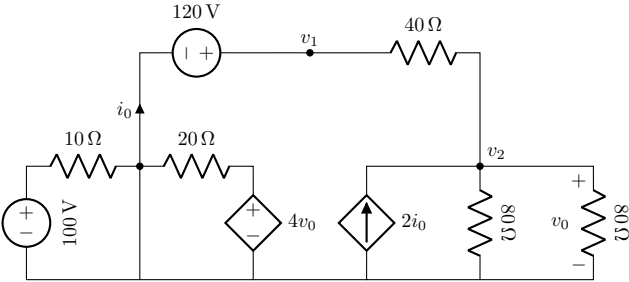
◇ Question 1 of 4 [CO3] [5 marks]



Which of the following statements is true?

- (A)  $R_{ab} = 91\text{ k}\Omega$ ,  $R_{bc} = 26\text{ k}\Omega$ ,  $R_{ca} = 52\text{ k}\Omega$
- (B)  $R_{ab} = 42\text{ k}\Omega$ ,  $R_{bc} = 22\text{ k}\Omega$ ,  $R_{ca} = 36\text{ k}\Omega$
- (C)  $R_{ab} = 42\text{ }\Omega$ ,  $R_{bc} = 22\text{ }\Omega$ ,  $R_{ca} = 36\text{ }\Omega$
- (D)  $R_{ab} = R_{bc} = R_{ca} = 14.56\text{ k}\Omega$
- (E) None of the above

◇ Question 2 of 4 [CO1] [1 mark]

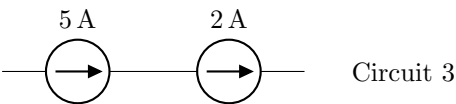
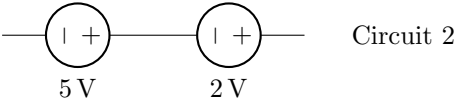
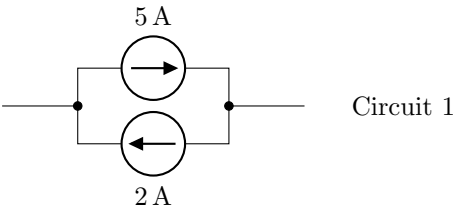


How many nodes are in this circuit?

- (A) 3
- (B) 7
- (C) 4
- (D) 5
- (E) 6

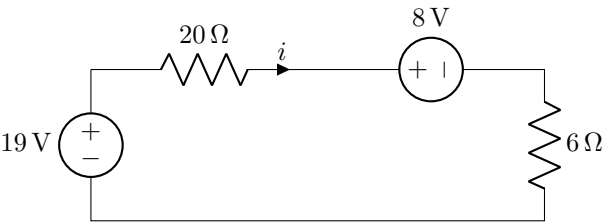
◇ Question 3 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff’s laws)?



- ☐ A
- Circuit 2
- ☐ B
- Circuit 3
- ☒ C
- Circuit 1**
- ☐ D
- Circuit 1 & 3
- ☐ E
- None of the above

◇ Question 4 of 4 [CO3] [2 marks]



What’s the relation between  $v_1, v_2$  and  $i$ ?

- ☒ A
- $-19 + 20i + 8 + 6i = 0$**
- ☐ B
- $-19 - 20i - 8 + 6i = 0$
- ☐ C
- $-19 - 20i + 8 + 6i = 0$
- ☐ D
- $-19 + 20i - 8 + 6i = 0$
- ☐ E
- None of the above



Brac University

Semester: Fall 2023

Course Code: CSE250

Circuits And Electronics

Section: 18

Faculty: SDS

Name:

ID:

Set

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Inspiring Excellence

Assessment: *Class Assignment 1*

Duration: 1 hour 20 minutes

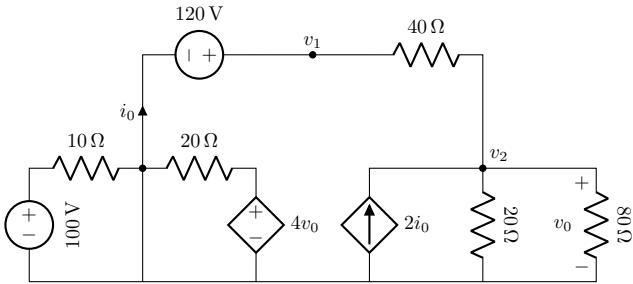
Date: September 28, 2023

Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 questions** are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room, continue on the back page.
- ✓ Symbols have their usual meanings.

Student ID	Answers (1-10)	Answers (11-20)	Answers (21-30)
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◇ Question 1 of 4 [CO1] [1 mark]

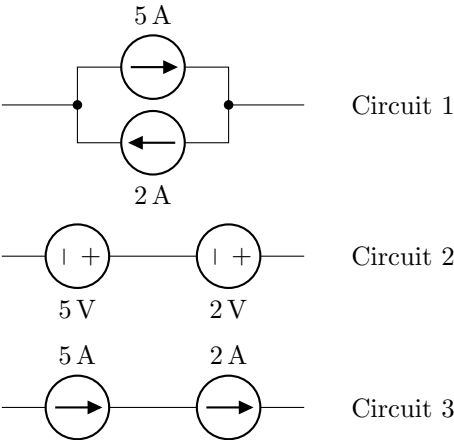


How many nodes are in this circuit?

- (A) 4 (B) 5 (C) 6 (D) 3 (E) 7

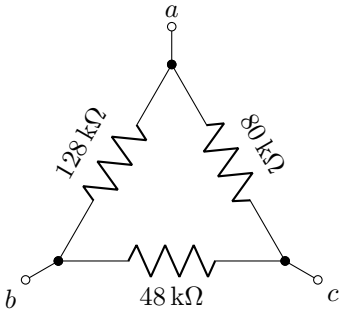
◇ Question 2 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff's laws)?



- (A) Circuit 1 (B) Circuit 3 (C) Circuit 1 & 3  
(D) Circuit 2 (E) None of the above

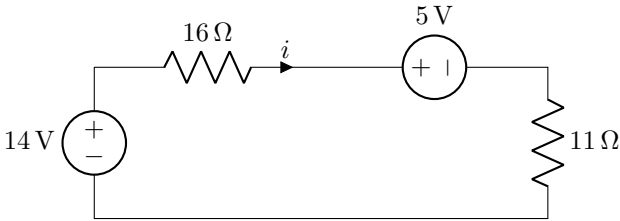
◇ Question 3 of 4 [CO3] [5 marks]



Which of the following statements is true?

- ☐ (A)  $R_{ab} = 64\ \Omega, R_{bc} = 39\ \Omega, R_{ca} = 55\ \Omega$
- ☐ (B)  $R_{ab} = 128\ \text{k}\Omega, R_{bc} = 48\ \text{k}\Omega, R_{ca} = 80\ \text{k}\Omega$
- ☒ (C)  $R_{ab} = 64\ \text{k}\Omega, R_{bc} = 39\ \text{k}\Omega, R_{ca} = 55\ \text{k}\Omega$
- ☐ (D)  $R_{ab} = R_{bc} = R_{ca} = 24.304\ \text{k}\Omega$
- ☐ (E) None of the above

◇ Question 4 of 4 [CO3] [2 marks]



What's the relation between  $v_1, v_2$  and  $i$ ?

- ☐ (A)  $-14 + 16i - 5 + 11i = 0$
- ☐ (B)  $-14 - 16i + 5 + 11i = 0$
- ☒ (C)  $-14 + 16i + 5 + 11i = 0$
- ☐ (D)  $-14 - 16i - 5 + 11i = 0$
- ☐ (E) None of the above

Brac University

Semester: Fall 2023  
Course Code: CSE250  
Circuits And Electronics  
Section: 18  
Faculty: SDS

Name:

Set

F



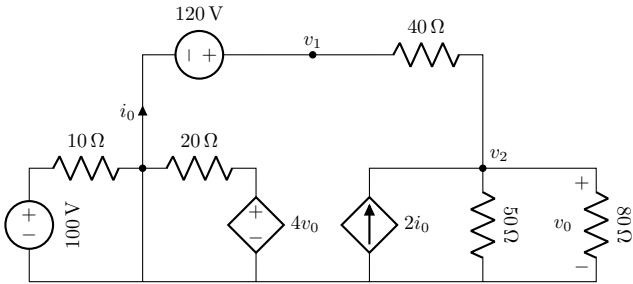
Inspiring Excellence

Assessment: *Class Assignment 1*  
Duration: 1 hour 20 minutes  
Date: September 28, 2023  
Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 questions** are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room, continue on the back page.
- ✓ Symbols have their usual meanings.

Student ID	Answers (1-10)	Answers (11-20)	Answers (21-30)
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◇ Question 1 of 4 [CO1] [1 mark]

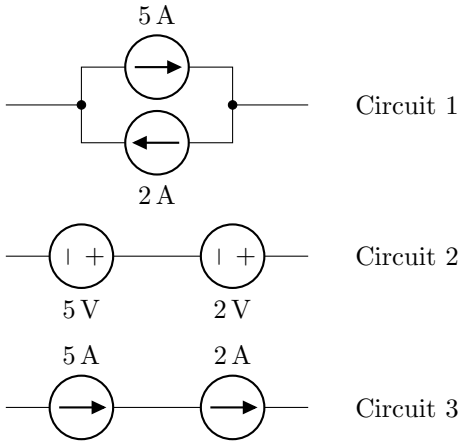


How many nodes are in this circuit?

- ☒ A 5   ☐ B 6   ☐ C 7   ☐ D 4   ☐ E 3

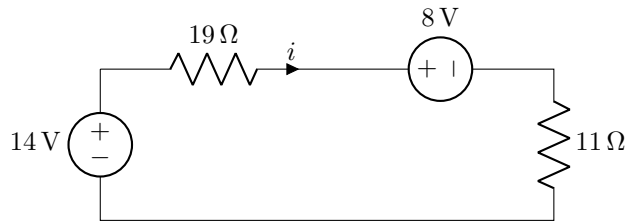
◇ Question 2 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff's laws)?



- ☒ A Circuit 1   ☐ B Circuit 1 & 3   ☐ C Circuit 3  
☐ D Circuit 2   ☐ E None of the above

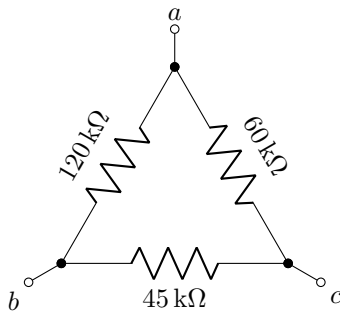
◇ Question 3 of 4 [CO3] [2 marks]



What's the relation between  $v_1, v_2$  and  $i$ ?

- (A)  $-14 - 19i + 8 + 11i = 0$
- (B)  $-14 + 19i - 8 + 11i = 0$
- (C)  $-14 - 19i - 8 + 11i = 0$
- (D)  $-14 + 19i + 8 + 11i = 0$
- (E) None of the above

◇ Question 4 of 4 [CO3] [5 marks]



Which of the following statements is true?

- (A)  $R_{ab} = 56\text{ k}\Omega, R_{bc} = 36\text{ k}\Omega, R_{ca} = 44\text{ k}\Omega$
- (B)  $R_{ab} = R_{bc} = R_{ca} = 21.176\text{ k}\Omega$
- (C)  $R_{ab} = 120\text{ k}\Omega, R_{bc} = 45\text{ k}\Omega, R_{ca} = 60\text{ k}\Omega$
- (D)  $R_{ab} = 56\text{ }\Omega, R_{bc} = 36\text{ }\Omega, R_{ca} = 44\text{ }\Omega$
- (E) None of the above

Brac University

Semester: Fall 2023  
Course Code: CSE250  
Circuits And Electronics  
Section: 18  
Faculty: SDS

Name:

ID:

Set

G



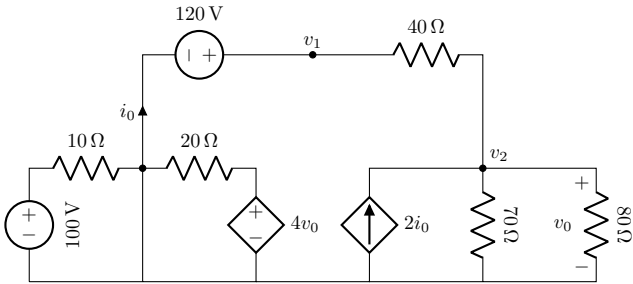
Inspiring Excellence

Assessment: *Class Assignment 1*  
Duration: 1 hour 20 minutes  
Date: September 28, 2023  
Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 questions** are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room, continue on the back page.
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Student ID	Answers (1-10)	Answers (11-20)	Answers (21-30)
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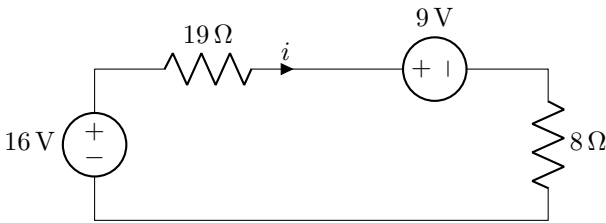
◇ Question 1 of 4 [CO1] [1 mark]



How many nodes are in this circuit?

- (A) 7 (B) 4 (C) 3 (D) 5 (E) 6

◇ Question 2 of 4 [CO3] [2 marks]

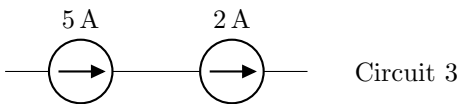
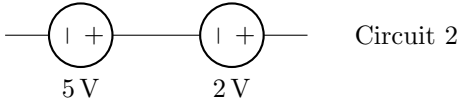
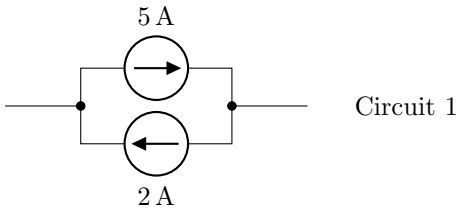


What's the relation between  $v_1$ ,  $v_2$  and  $i$ ?

- (A)  $-16 - 19i - 9 + 8i = 0$   
(B)  $-16 + 19i - 9 + 8i = 0$   
(C)  $-16 - 19i + 9 + 8i = 0$   
(D)  $-16 + 19i + 9 + 8i = 0$   
(E) None of the above

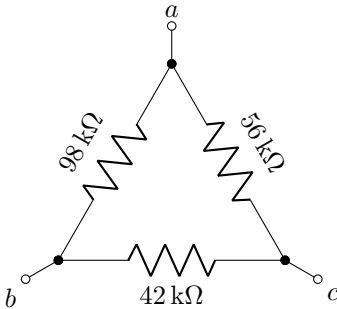
◇ Question 3 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff’s laws)?



- ☐ (A) Circuit 1 & 3    ☒ (B) Circuit 1    ☐ (C) Circuit 3  
☐ (D) Circuit 2    ☐ (E) None of the above

◇ Question 4 of 4 [CO3] [5 marks]



Which of the following statements is true?

- ☐ (A)  $R_{ab} = R_{bc} = R_{ca} = 19.279\text{ k}\Omega$   
☐ (B)  $R_{ab} = 49\text{ }\Omega, R_{bc} = 33\text{ }\Omega, R_{ca} = 40\text{ }\Omega$   
☒ (C)  $R_{ab} = 49\text{ k}\Omega, R_{bc} = 33\text{ k}\Omega, R_{ca} = 40\text{ k}\Omega$   
☐ (D)  $R_{ab} = 98\text{ k}\Omega, R_{bc} = 42\text{ k}\Omega, R_{ca} = 56\text{ k}\Omega$   
☐ (E) None of the above



Brac University

Semester: Fall 2023  
Course Code: CSE250  
Circuits And Electronics  
Section: 18  
Faculty: SDS

Name:

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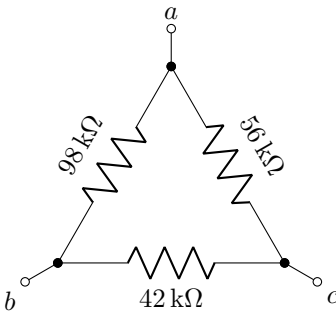
Inspiring Excellence

Assessment: *Class Assignment 1*  
Duration: 1 hour 20 minutes  
Date: September 28, 2023  
Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 questions** are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room, continue on the back page.
- ✓ Symbols have their usual meanings.

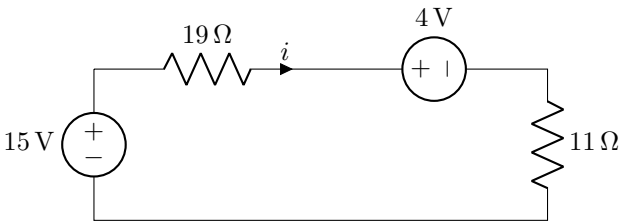
Student ID	Answers (1-10)	Answers (11-20)	Answers (21-30)
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◇ Question 1 of 4 [CO3] [5 marks]



- Which of the following statements is true?
- (A)  $R_{ab} = R_{bc} = R_{ca} = 19.279\text{ k}\Omega$
  - (B)  $R_{ab} = 49\text{ k}\Omega, R_{bc} = 33\text{ k}\Omega, R_{ca} = 40\text{ k}\Omega$
  - (C)  $R_{ab} = 49\text{ }\Omega, R_{bc} = 33\text{ }\Omega, R_{ca} = 40\text{ }\Omega$
  - (D)  $R_{ab} = 98\text{ k}\Omega, R_{bc} = 42\text{ k}\Omega, R_{ca} = 56\text{ k}\Omega$
  - (E) None of the above

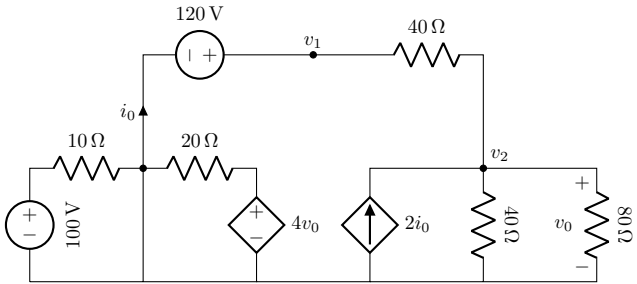
◇ Question 2 of 4 [CO3] [2 marks]



- What's the relation between  $v_1, v_2$  and  $i$ ?
- (A)  $-15 - 19i + 4 + 11i = 0$
  - (B)  $-15 - 19i - 4 + 11i = 0$
  - (C)  $-15 + 19i + 4 + 11i = 0$
  - (D)  $-15 + 19i - 4 + 11i = 0$
  - (E) None of the above



◇ Question 3 of 4 [CO1] [1 mark]

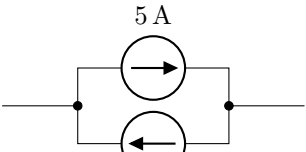


How many nodes are in this circuit?

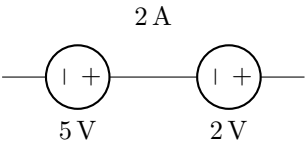
- ☒ A 5    ☐ B 4    ☐ C 3    ☐ D 6    ☐ E 7

◇ Question 4 of 4 [CO1] [2 marks]

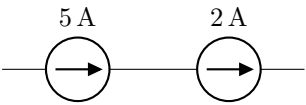
Which of the following circuits is/are impossible (violates Kirchhoff’s laws)?



Circuit 1



Circuit 2



Circuit 3

- ☒ A Circuit 1    ☐ B Circuit 1 & 3    ☐ C Circuit 2  
☐ D Circuit 3    ☐ E None of the above

Brac University

Semester: Fall 2023  
Course Code: CSE250  
Circuits And Electronics  
Section: 18  
Faculty: SDS

Name:

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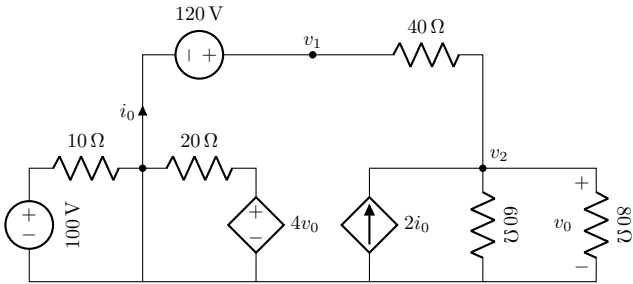
Inspiring Excellence

Assessment: *Class Assignment 1*  
Duration: 1 hour 20 minutes  
Date: September 28, 2023  
Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 questions** are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room, continue on the back page.
- ✓ Symbols have their usual meanings.

Student ID	Answers (1-10)	Answers (11-20)	Answers (21-30)
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9 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	6 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	16 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	26 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
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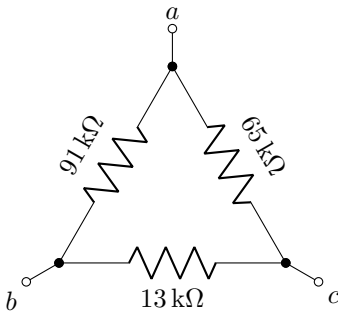
◇ Question 1 of 4 [CO1] [1 mark]



How many nodes are in this circuit?

- (A) 6 (B) 4 (C) 3 (D) 5 (E) 7

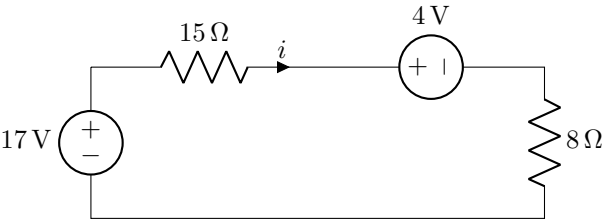
◇ Question 2 of 4 [CO3] [5 marks]



Which of the following statements is true?

- (A)  $R_{ab} = 42\Omega, R_{bc} = 12\Omega, R_{ca} = 40\Omega$   
(B)  $R_{ab} = R_{bc} = R_{ca} = 9.681\text{ k}\Omega$   
(C)  $R_{ab} = 42\text{ k}\Omega, R_{bc} = 12\text{ k}\Omega, R_{ca} = 40\text{ k}\Omega$   
(D)  $R_{ab} = 91\text{ k}\Omega, R_{bc} = 13\text{ k}\Omega, R_{ca} = 65\text{ k}\Omega$   
(E) None of the above

◇ Question 3 of 4 [CO3] [2 marks]

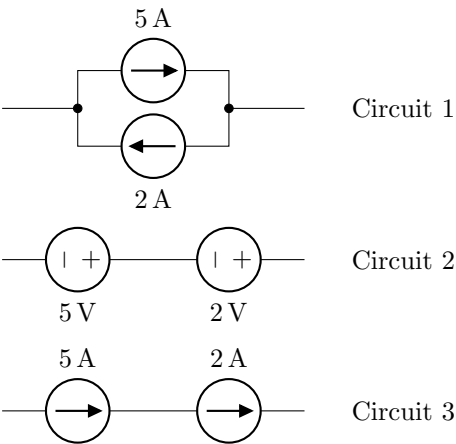


What’s the relation between  $v_1, v_2$  and  $i$ ?

- (A)  $-17 - 15i - 4 + 8i = 0$
- (B)  $-17 - 15i + 4 + 8i = 0$
- (C)  $-17 + 15i - 4 + 8i = 0$
- (D)  $-17 + 15i + 4 + 8i = 0$
- (E) None of the above

◇ Question 4 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff’s laws)?



- (A) Circuit 1 & 3
- (B) Circuit 2
- (C) Circuit 1
- (D) Circuit 3
- (E) None of the above

Brac University

Semester: Fall 2023  
Course Code: CSE250  
Circuits And Electronics  
Section: 18  
Faculty: SDS

Name:

Set

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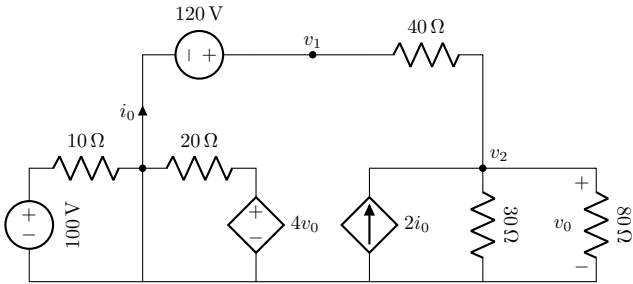
Assessment: *Class Assignment 1*  
Duration: 1 hour 20 minutes  
Date: September 28, 2023  
Full Marks: 10



- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 questions** are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room, continue on the back page.
- ✓ Symbols have their usual meanings.

Student ID	Answers (1-10)	Answers (11-20)	Answers (21-30)
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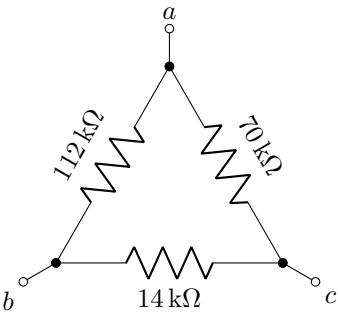
◇ Question 1 of 4 [CO1] [1 mark]



How many nodes are in this circuit?

- (A) 3 (B) 4 (C) 6 (D) 7 (E) 5

◇ Question 2 of 4 [CO3] [5 marks]

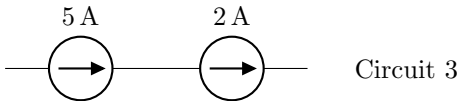
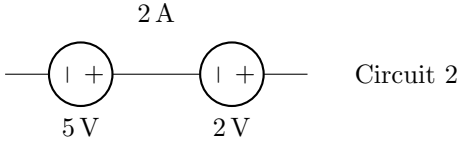
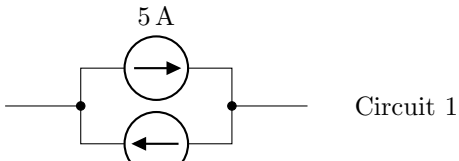


Which of the following statements is true?

- (A)  $R_{ab} = 48\,\Omega, R_{bc} = 13\,\Omega, R_{ca} = 45\,\Omega$   
(B)  $R_{ab} = 48\,\text{k}\Omega, R_{bc} = 13\,\text{k}\Omega, R_{ca} = 45\,\text{k}\Omega$   
(C)  $R_{ab} = R_{bc} = R_{ca} = 10.566\,\text{k}\Omega$   
(D)  $R_{ab} = 112\,\text{k}\Omega, R_{bc} = 14\,\text{k}\Omega, R_{ca} = 70\,\text{k}\Omega$   
(E) None of the above

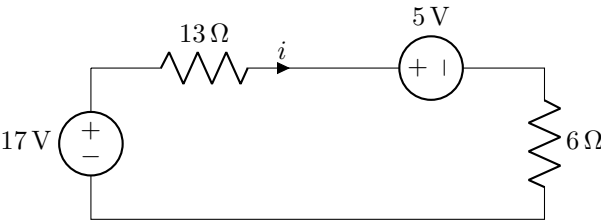
◇ Question 3 of 4 [CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff’s laws)?



- ☐ (A) Circuit 2    ☐ (B) Circuit 3    ☐ (C) Circuit 1 & 3  
☒ (D) Circuit 1    ☐ (E) None of the above

◇ Question 4 of 4 [CO3] [2 marks]



What’s the relation between  $v_1$ ,  $v_2$  and  $i$ ?

- ☐ (A)  $-17 + 13i - 5 + 6i = 0$   
☐ (B)  $-17 - 13i + 5 + 6i = 0$   
☐ (C)  $-17 - 13i - 5 + 6i = 0$   
☒ (D)  $-17 + 13i + 5 + 6i = 0$   
☐ (E) None of the above



