

Brac University

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

Name:

Set

A



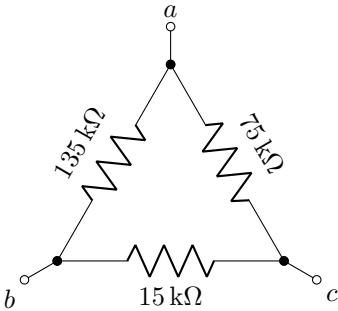
Inspiring Excellence

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 question(s)** 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]

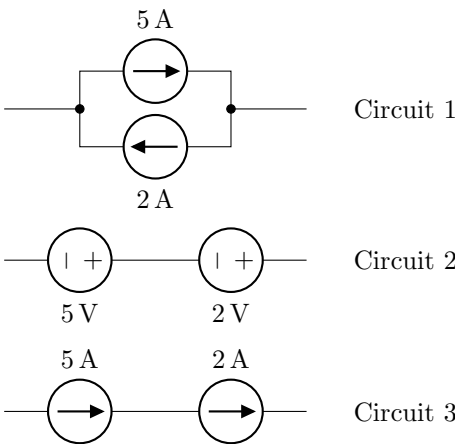


Which of the following statements is true?

- (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

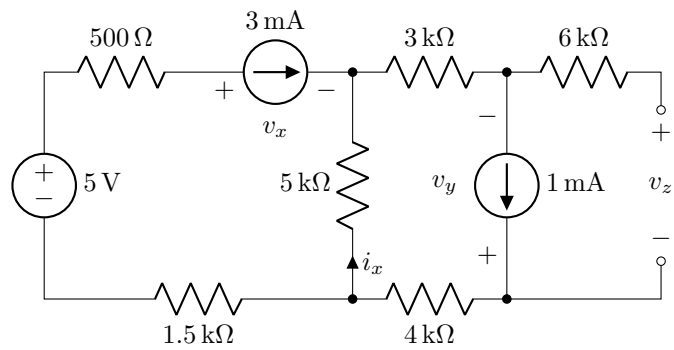
◇ Question 2 of 4 [CO1] [2 marks]

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



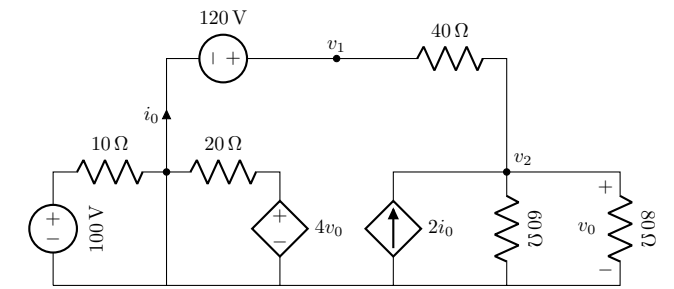
- (A) Circuit 2
- (B) Circuit 3
- (C) **Circuit 1**
- (D) Circuit 1 & 3
- (E) None of the above

◇ 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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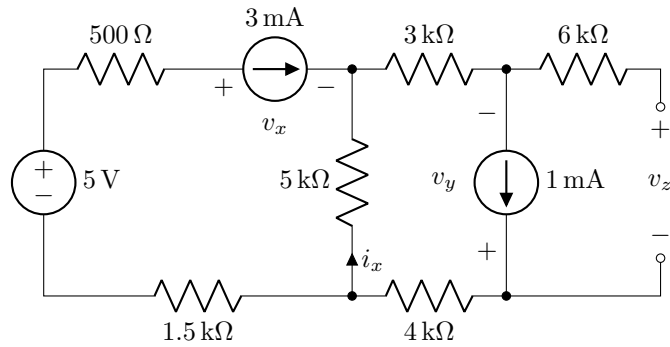
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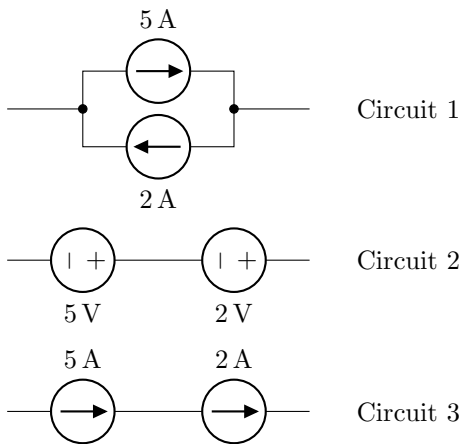
◇ Question 1 of 4 [CO3] [2 marks]



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

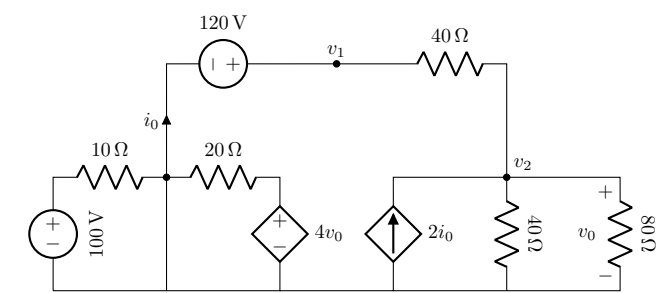
◇ Question 2 of 4 [CO1] [2 marks]

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

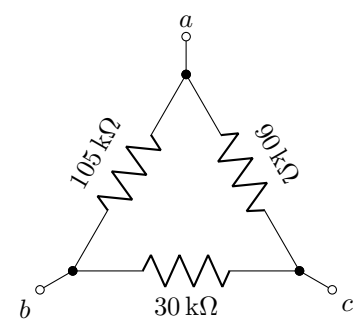
◇ Question 3 of 4 [CO1] [1 mark]



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

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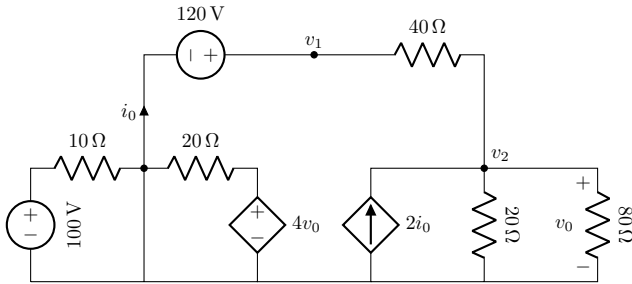
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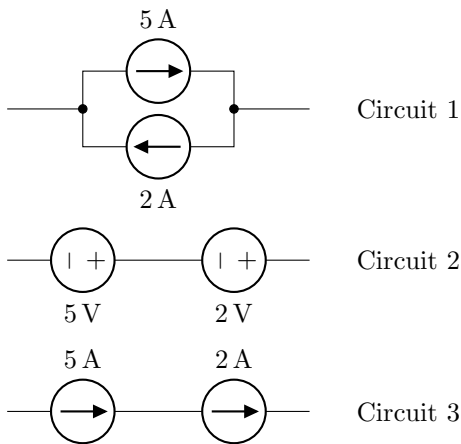


How many nodes are in this circuit?

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

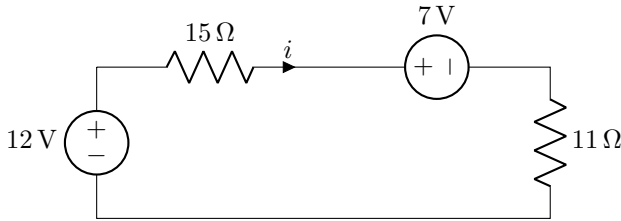
◇ Question 2 of 4 [CO1] [2 marks]

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

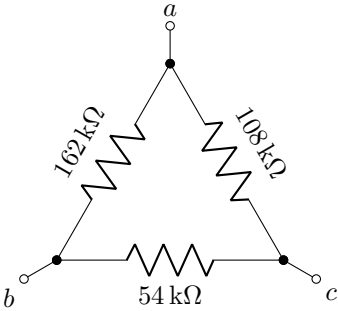
◇ Question 3 of 4 [CO3] [2 marks]



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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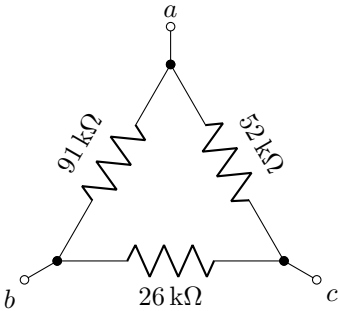
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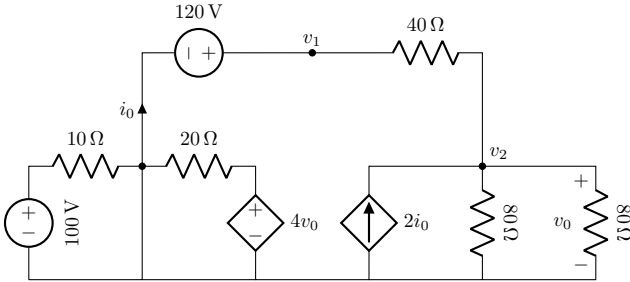
◇ Question 1 of 4 [CO3] [5 marks]



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]

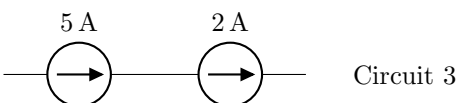
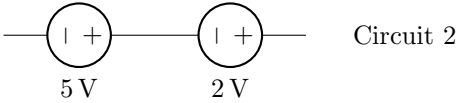
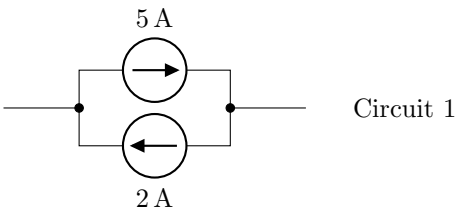


How many nodes are in this circuit?

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

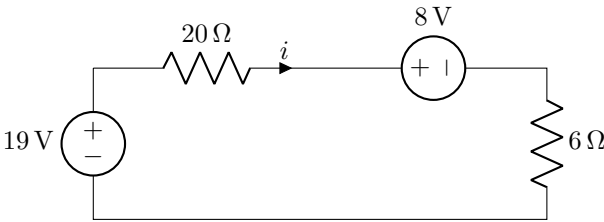
◇ Question 3 of 4 [CO1] [2 marks]

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:

Set

E



Inspiring Excellence

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

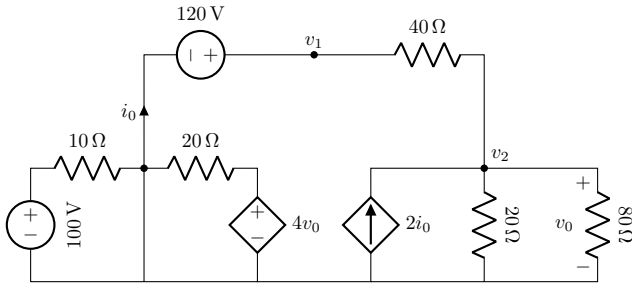
- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 question(s)** are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out 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]

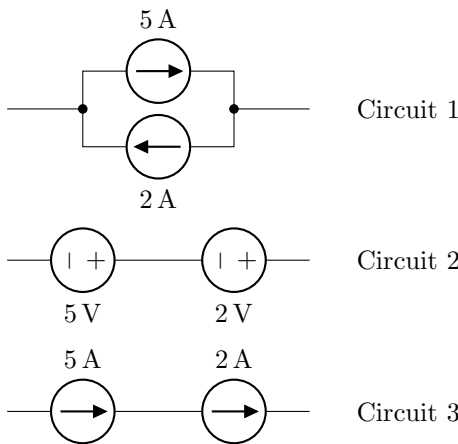


How many nodes are in this circuit?

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

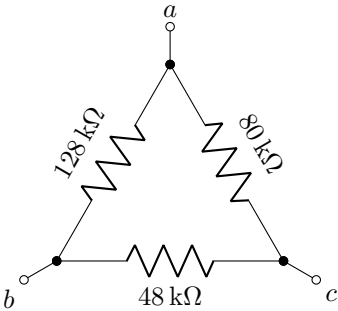
◇ Question 2 of 4 [CO1] [2 marks]

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

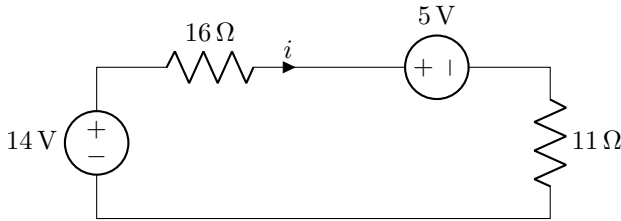
◇ Question 3 of 4 [CO3] [5 marks]



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:

ID:

Set

F



Inspiring Excellence

Assessment: *Class Assignment 1*

Duration: 1 hour 20 minutes

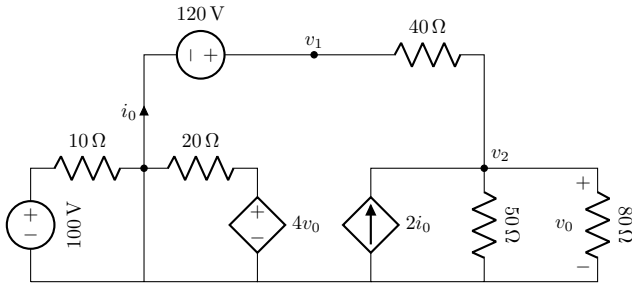
Date: September 28, 2023

Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 question(s)** 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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◇ Question 1 of 4 [CO1] [1 mark]



How many nodes are in this circuit?

- A

 5

B

 6

C

 7

D

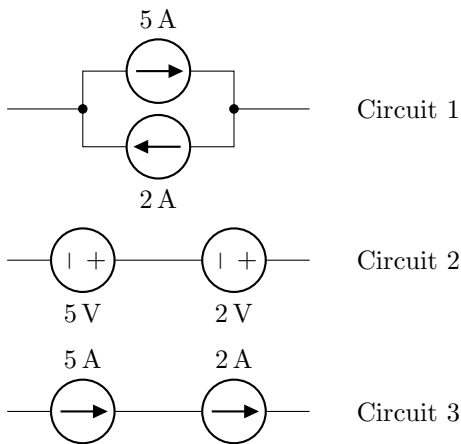
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◇ Question 2 of 4 [CO1] [2 marks]

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



- A

Circuit 1

B

 Circuit 1 & 3

C

 Circuit 3

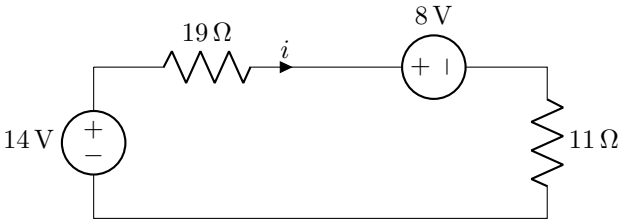
D

 Circuit 2

E

 None of the above

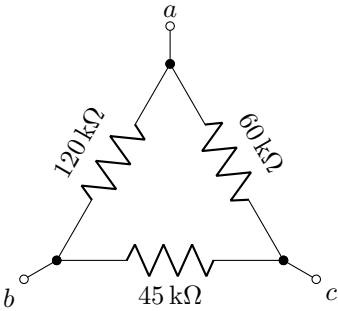
◇ Question 3 of 4 [CO3] [2 marks]



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

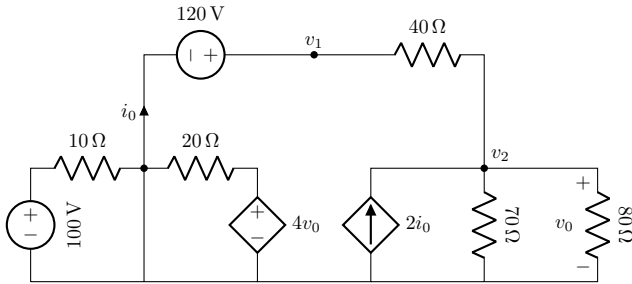
Date: September 28, 2023

Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
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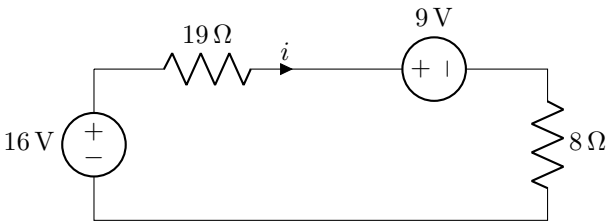
◇ Question 1 of 4 [CO1] [1 mark]



How many nodes are in this circuit?

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

◇ Question 2 of 4 [CO3] [2 marks]

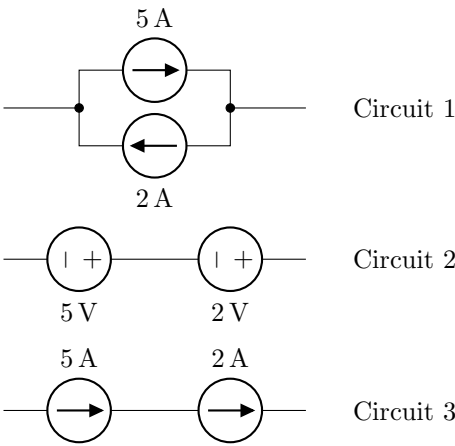


What's the relation between v_1 , v_2 and i ?

- (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

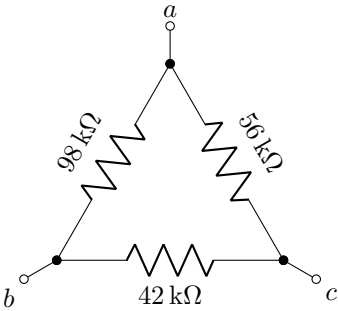
◇ Question 3 of 4 [CO1] [2 marks]

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:

Set

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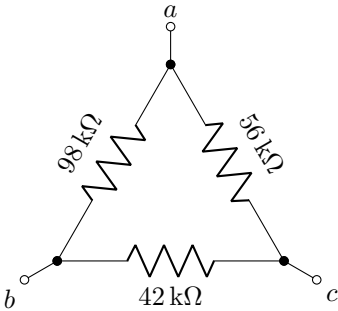
Inspiring Excellence

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 question(s)** 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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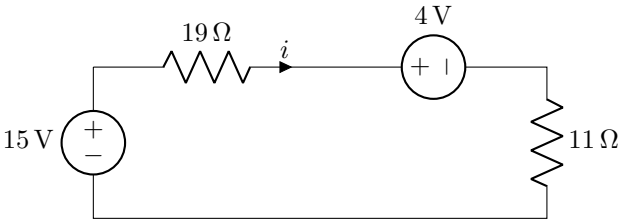
◇ Question 1 of 4 [CO3] [5 marks]



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

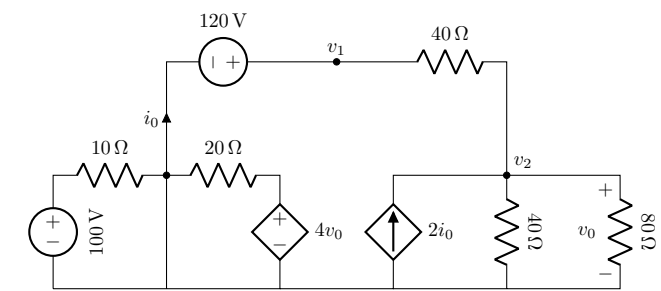
◇ Question 2 of 4 [CO3] [2 marks]



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]

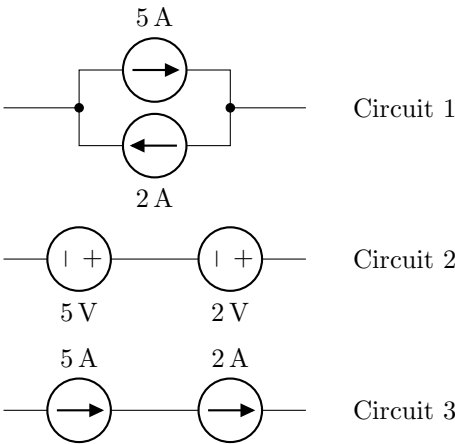


How many nodes are in this circuit?

- ☒ 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)?



- ☒ 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:

ID:

Set

I



Inspiring Excellence

Assessment: *Class Assignment 1*

Duration: 1 hour 20 minutes

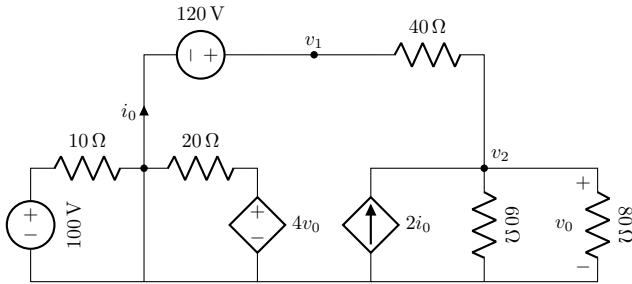
Date: September 28, 2023

Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 question(s)** 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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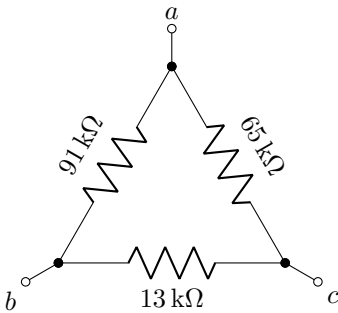
◇ Question 1 of 4 [CO1] [1 mark]



How many nodes are in this circuit?

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

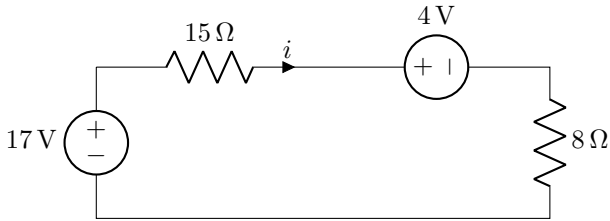
◇ Question 2 of 4 [CO3] [5 marks]



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]

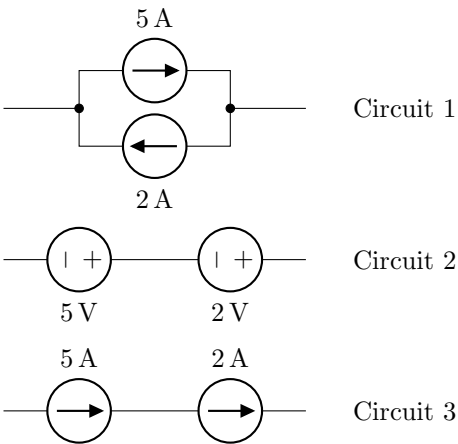


What’s the relation between v_1, v_2 and i ?

- ☐ (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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Inspiring Excellence

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

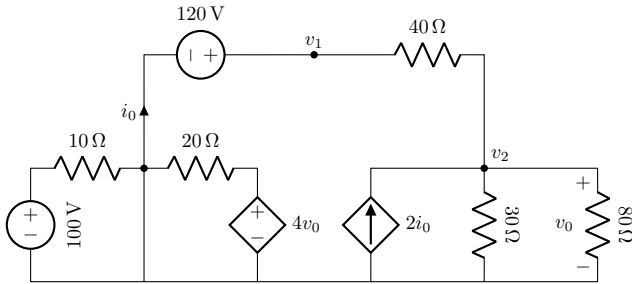
- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All **4 question(s)** are compulsory. Marks allotted for each question are mentioned beside each question.
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Set Identifier

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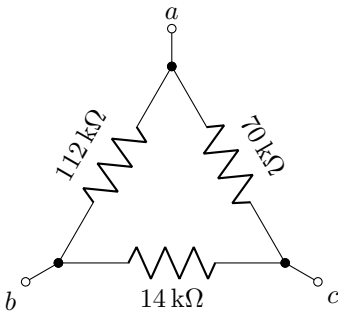
◇ Question 1 of 4 [CO1] [1 mark]



How many nodes are in this circuit?

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

◇ Question 2 of 4 [CO3] [5 marks]

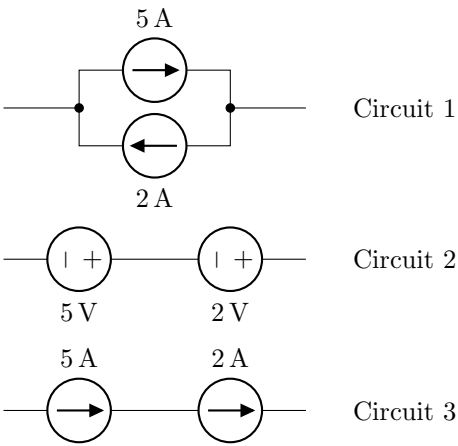


Which of the following statements is true?

- (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

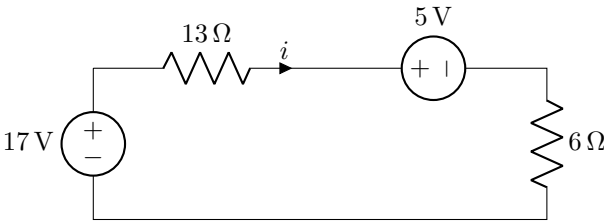
◇ Question 3 of 4 [CO1] [2 marks]

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

