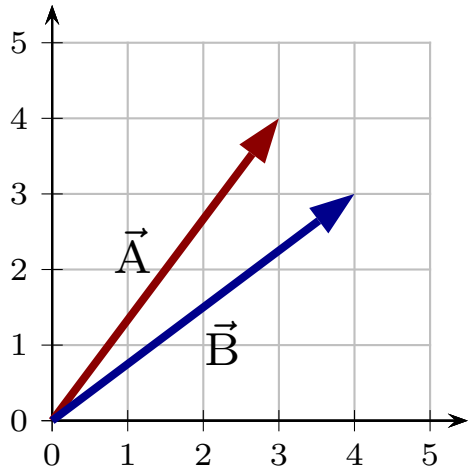
Question 1

Consider the two vectors $\vec{\mathrm{A}}$ and $\vec{\mathrm{B}}$ as illustrated.

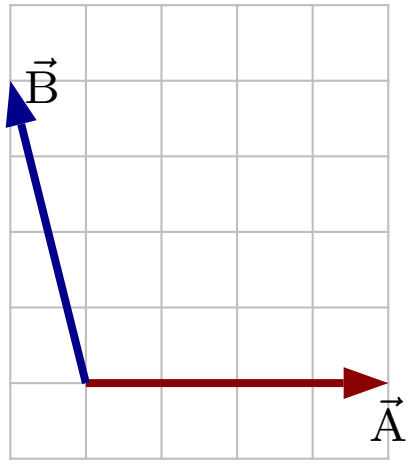


Which of the following is true?

1. The vectors have different magnitudes and are thus different.
2. The magnitudes are both 5 but the vectors are *not equal.*
3. The magnitudes are both 7 but the vectors are *not equal.*
4. The magnitudes are both 5 and the vectors are *equal.*
5. The magnitudes are both 7 and the vectors are *equal.*

Question 2

Consider the two vectors $\vec{\mathrm{A}}$ and $\vec{\mathrm{B}}$ as illustrated.

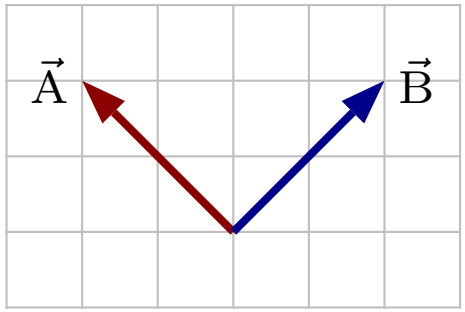


Which of the following is the magnitude of $\vec{\mathrm{C}} = \vec{\mathrm{A}} + \vec{\mathrm{B}}$?

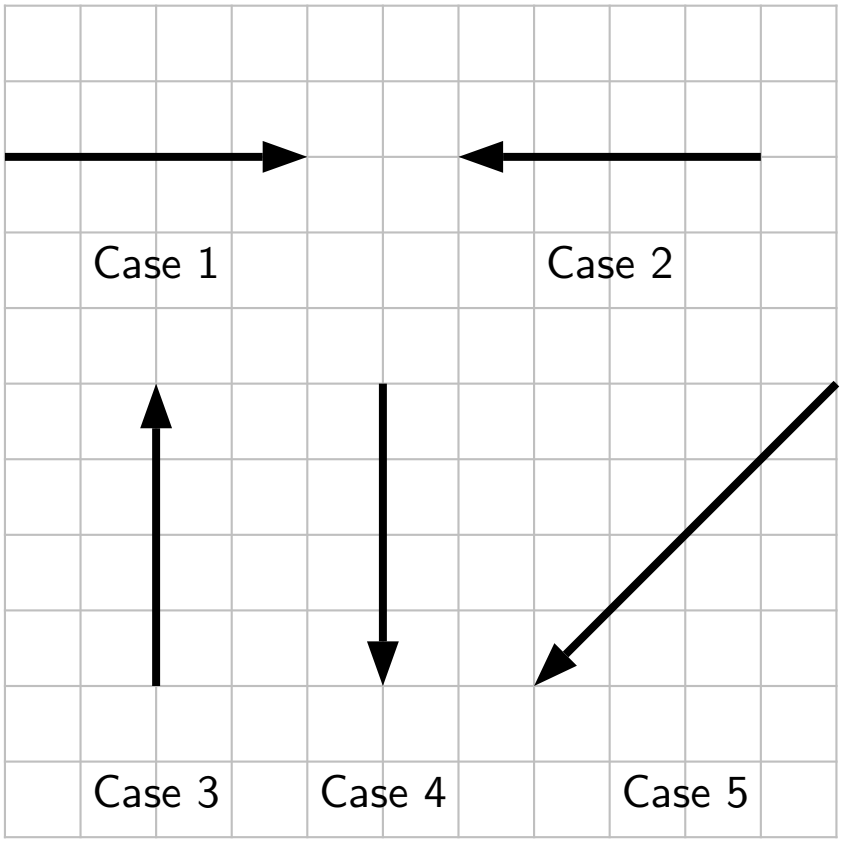
1. $C = 1$
2. $C = 5$
3. $C = 7$
4. $C = 8$
5. $C = 4 + \sqrt{17}$
6. $C = 9$

Question 3

Consider the two vectors $\vec{A}$ and $\vec{B}$ as illustrated.

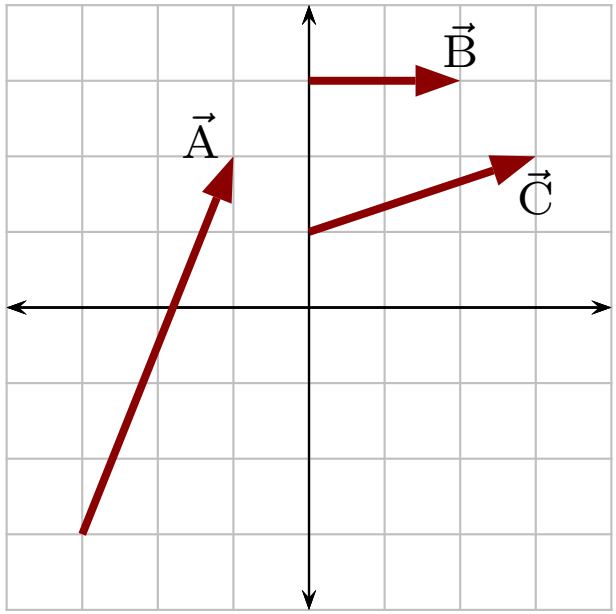


Which of the following best represents $\vec{A} - \vec{B}$?



Question 4

Several displacement vectors are illustrated below.



Rank these in order of increasing y-component.

1. $B_y < C_y < A_y$
2. $C_y < B_y < A_y$
3. $A_y = C_y < B_y$
4. $A_y < C_y < B_y$
5. $C_y < A_y < B_y$