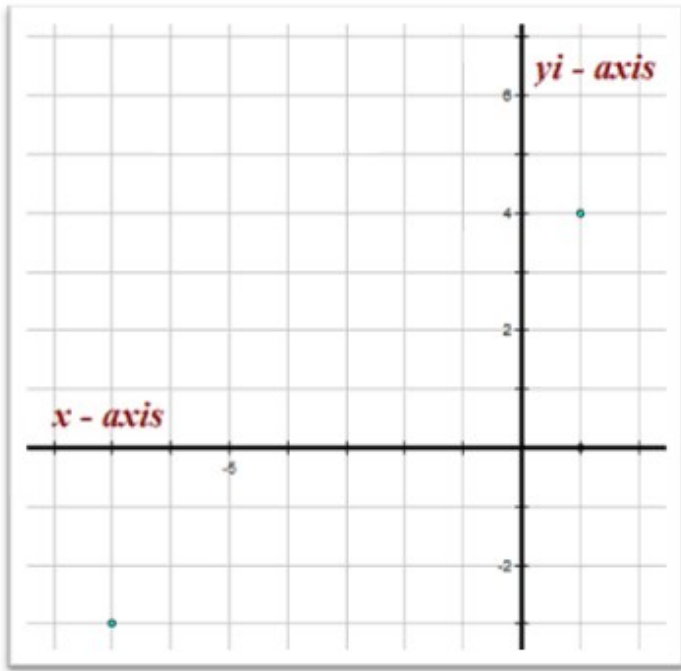


Complex Plane  
Algebra 2

1. Calculate the distance between the complex numbers graphed below. Round to the nearest hundredth if necessary.



1. 9.89 units      3. 13.01 units  
2. 10.63 units    4. 15.00 units

2. Find the distance between the numbers  $4 - 9i$  and  $-7 + 5i$  in the complex plane. Round to the nearest hundredth if necessary.

1. 17.80 units      3. 7.48 units  
2. 11.89 units      4. 5.39 units

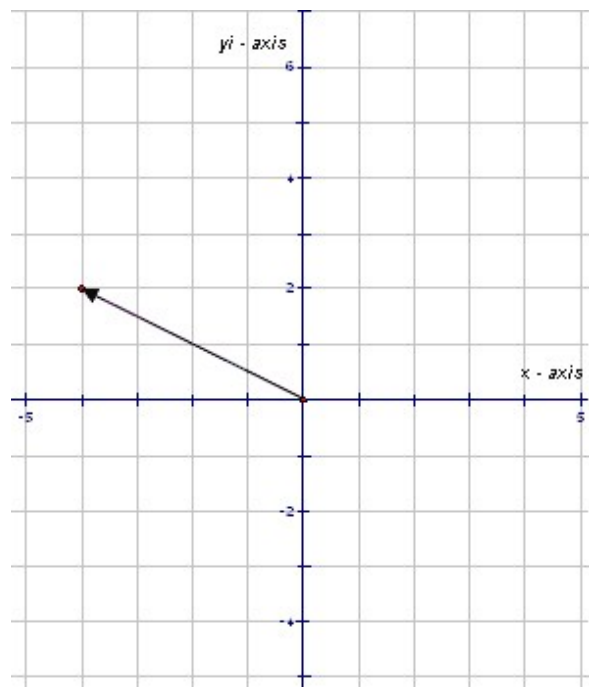
3. Find the midpoint of the segment in the complex plane that has endpoints  $12 - 9i$  and  $-10 + 3i$ .

1.  $1 - 3i$       3.  $11 - 6i$   
2.  $2 - 6i$       4.  $6 - 3i$

4. What is the absolute value of the vector resulting from the sum of the complex numbers  $7 + i$  and  $4i$ ?

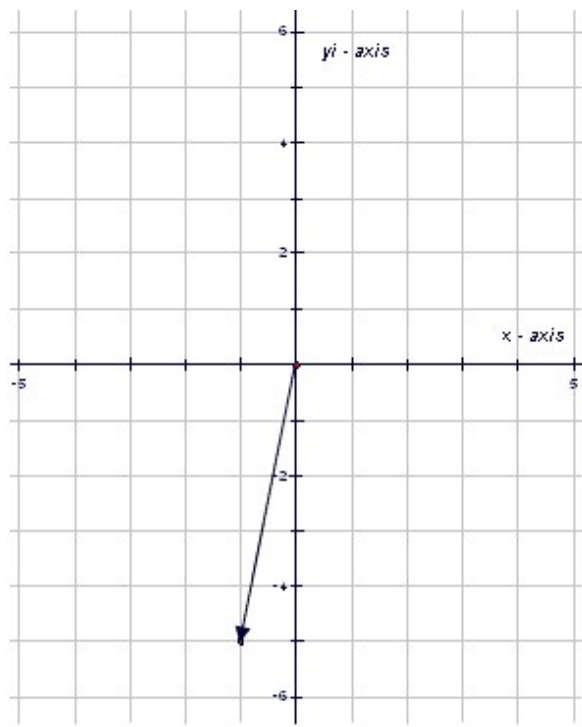
1.  $2\sqrt{37}$   
2.  $\sqrt{24}$   
3.  $\sqrt{74}$   
4.  $2\sqrt{6}$

5. What is the magnitude of the vector of the complex number graphed below?



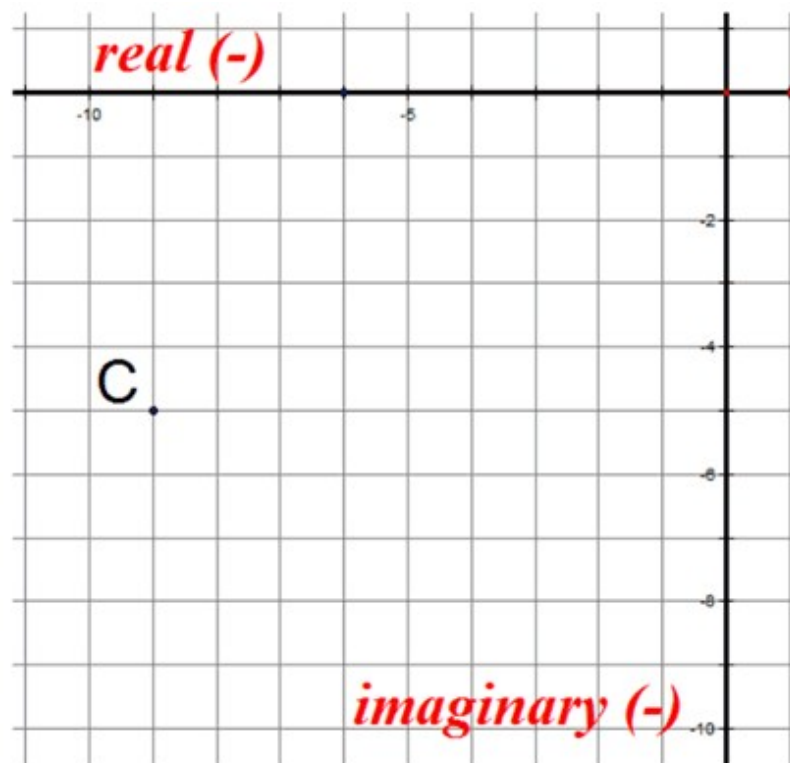
1.  $2\sqrt{3}$
2.  $2\sqrt{5}$
3.  $\sqrt{10}$
4. 20

6. What is the magnitude of the vector of the complex number graphed below?



1. 1
2. 5
3.  $2\sqrt{6}$
4.  $\sqrt{26}$

7. Find the modulus of the complex number represented by point  $C$  in the diagram below.

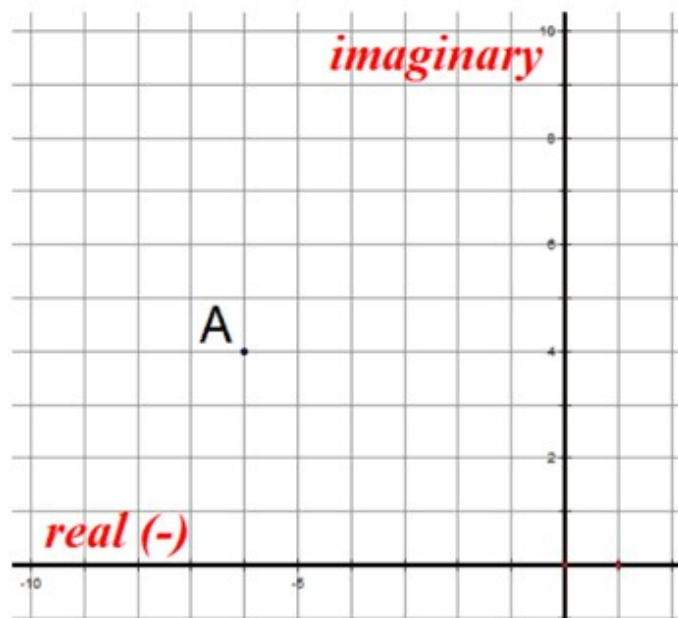


1.  $\sqrt{56}$
2.  $\sqrt{86}$
3.  $\sqrt{106}$
4.  $\sqrt{196}$

8. The midpoint of a segment in the complex plane is  $13 + 9i$ . If one endpoint of the segment is  $-7i$ , what is the other endpoint written as a complex number?

- |               |               |
|---------------|---------------|
| 1. $13 + 2i$  | 3. $13 + 25i$ |
| 2. $26 + 32i$ | 4. $26 + 25i$ |

9. Find the modulus of the complex number represented by point  $A$  in the diagram below.



1.  $\sqrt{20}$
2.  $\sqrt{40}$
3.  $\sqrt{52}$
4.  $\sqrt{62}$

10. What is the absolute value of the vector resulting from the sum of the complex numbers  $-2 + 2i$  and  $-3 - 14i$ ?

1.  $\sqrt{119}$
2.  $13i$
3.  $-13$
4.  $13$

11. Find the modulus of the complex number  $5 + 3i$ .

1.  $\sqrt{24}$
2.  $\sqrt{34}$
3.  $\sqrt{38}$
4.  $\sqrt{42}$

12. What is the absolute value of the vector resulting from graphing the complex number  $-4 + i$ ?

1.  $3i\sqrt{2}$
2.  $\sqrt{-15}$
3.  $\sqrt{17}$
4.  $17$

13. Find the midpoint of the segment in the complex plane that has endpoints  $-14 + 11i$  and  $6 + 3i$ .

1.  $7 - 4i$       3.  $-4 + 7i$

2.  $-8 + 14i$     4.  $-10 + 4i$

14. What is the midpoint of the segment in the complex plane that has endpoints  $-3 - 8i$  and  $21 - 2i$ ?

1.  $18 - 6i$

2.  $-24 - 6i$

3.  $9 - 3i$

4.  $9 - 5i$

15.

What is the magnitude of the vector resulting from graphing the complex number  $-2i$ ?

1.  $2i$

2.  $2$

3.  $\sqrt{-4}$

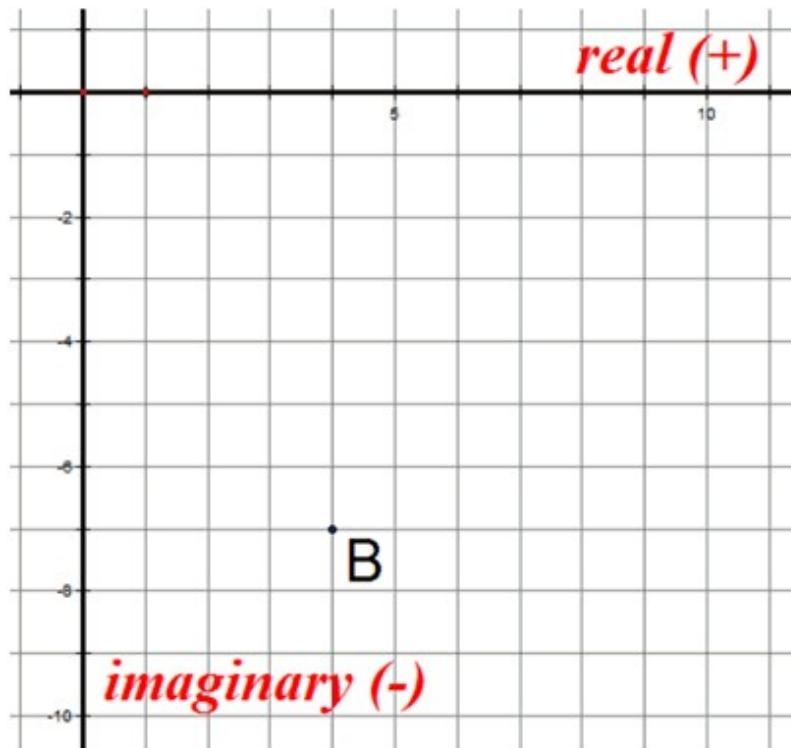
4.  $4$

16. The midpoint of a segment in the complex plane is  $-3 + 8i$ . If one endpoint of the segment is  $11 + 2i$ , what is the other endpoint written as a complex number?

1.  $4 + 5i$       3.  $-17 + 14i$

2.  $-28 + 12i$     4.  $5 - 8i$

17. Find the modulus of the complex number represented by point  $B$  in the diagram below.

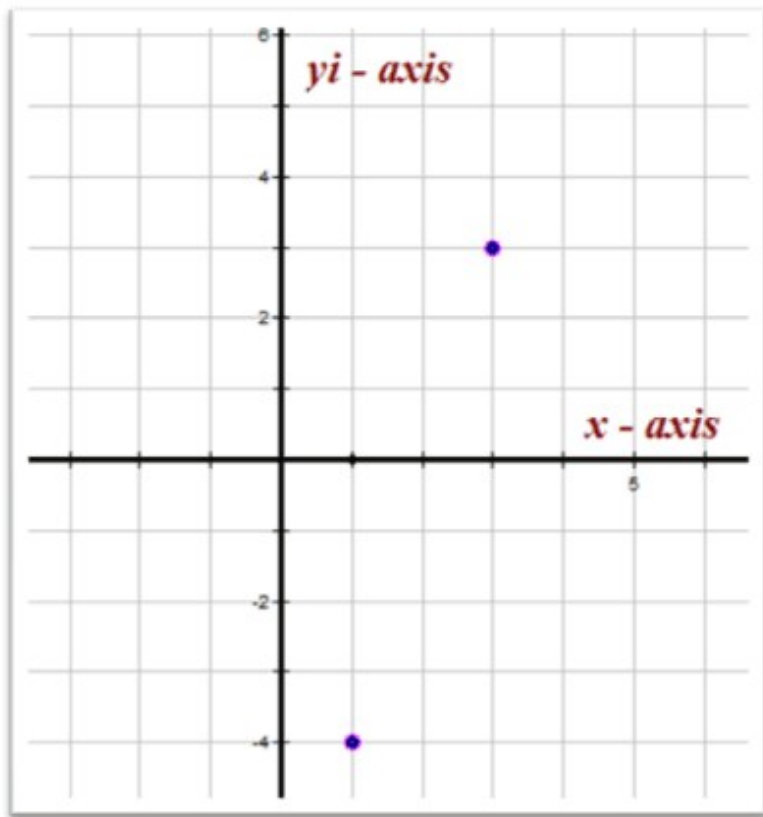


1.  $\sqrt{33}$
2.  $\sqrt{65}$
3.  $\sqrt{75}$
4.  $\sqrt{121}$

18. Find the distance between the numbers  $13 - 8i$  and  $10i$  in the complex plane. Round to the nearest hundredth if necessary.

- |                |                |
|----------------|----------------|
| 1. 11.18 units | 3. 19.00 units |
| 2. 12.45 units | 4. 22.20 units |

19. Find the distance between the complex numbers graphed below. Round to the nearest hundredth if necessary.



- 1. 3.00 units      3. 6.71 units
- 2. 5.37 units      4. 7.28 units

20. What is the absolute value of the vector resulting from graphing the complex number  $2 + 8i$ ?

- 1. 68
- 2.  $2\sqrt{17}$
- 3.  $4\sqrt{17}$
- 4. 4