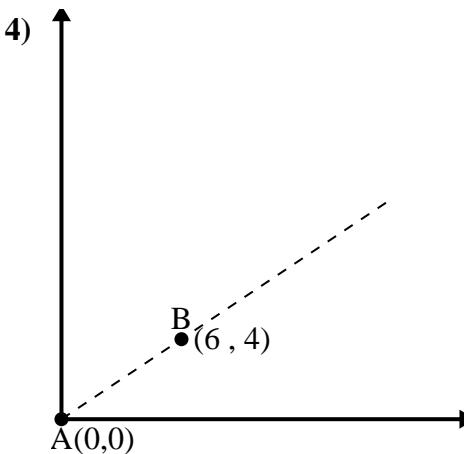
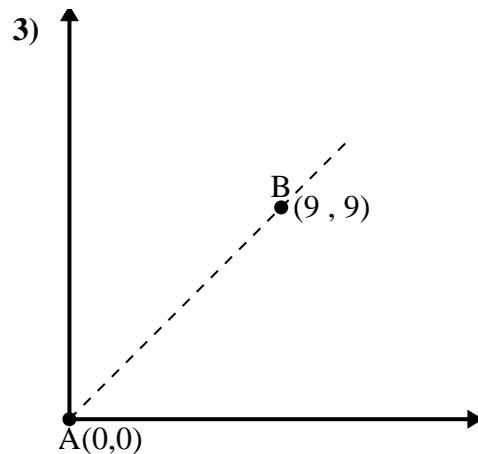
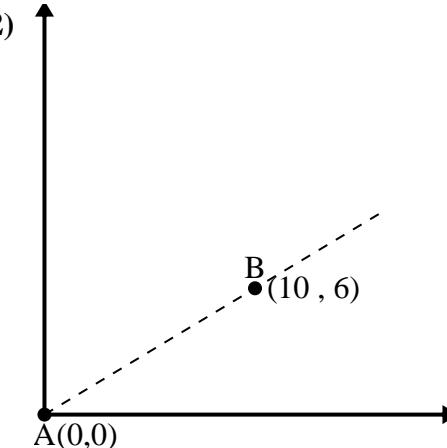
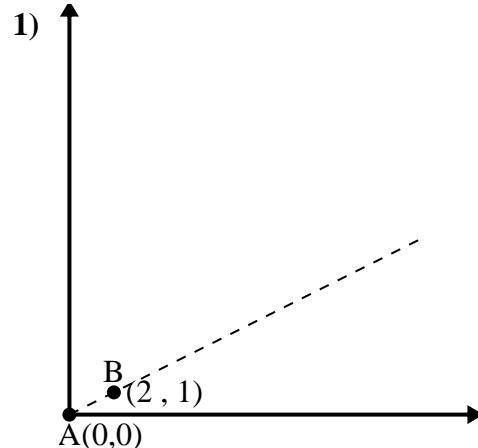
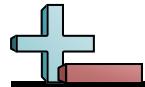


## Applying the Law of Cosines

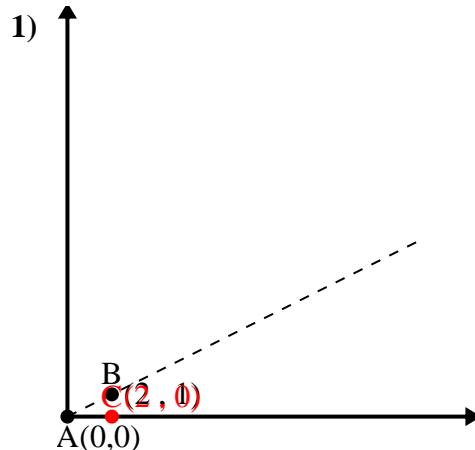
Name: \_\_\_\_\_

**Use the law of Cosines to find the point B's angle relative to point A.****Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_



Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 2.24$$

$$\overline{AC} \text{ length} = 2$$

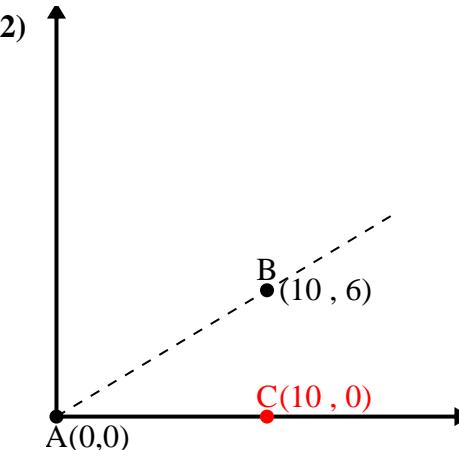
$$\overline{BC} \text{ length} = 1$$

$$(5 + 4 + 1) \div (2 \times 2.24 \times 2)$$

$$0.89$$

$$\cos^{-1}(0.89)$$

$$26.57^\circ$$



$$\overline{AB} \text{ length} = 11.66$$

$$\overline{AC} \text{ length} = 10$$

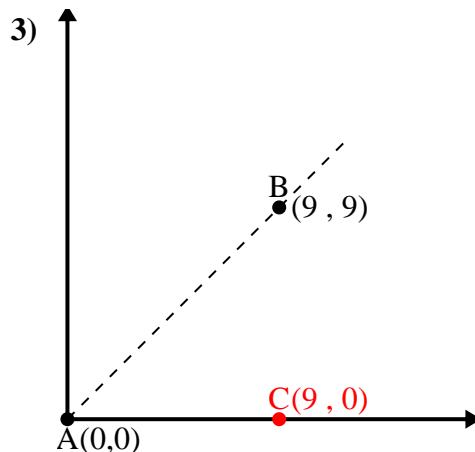
$$\overline{BC} \text{ length} = 6$$

$$(136 + 100 + 36) \div (2 \times 11.66 \times 10)$$

$$0.86$$

$$\cos^{-1}(0.86)$$

$$30.96^\circ$$



$$\overline{AB} \text{ length} = 12.73$$

$$\overline{AC} \text{ length} = 9$$

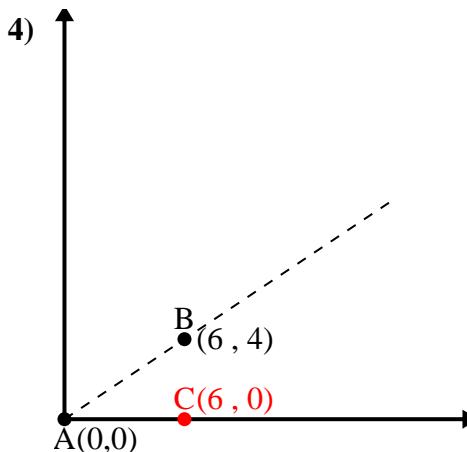
$$\overline{BC} \text{ length} = 9$$

$$(162 + 81 + 81) \div (2 \times 12.73 \times 9)$$

$$0.71$$

$$\cos^{-1}(0.71)$$

$$45^\circ$$



$$\overline{AB} \text{ length} = 7.21$$

$$\overline{AC} \text{ length} = 6$$

$$\overline{BC} \text{ length} = 4$$

$$(52 + 36 + 16) \div (2 \times 7.21 \times 6)$$

$$0.83$$

$$\cos^{-1}(0.83)$$

$$33.69^\circ$$

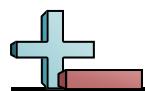
### Answers

1. **26.57°**

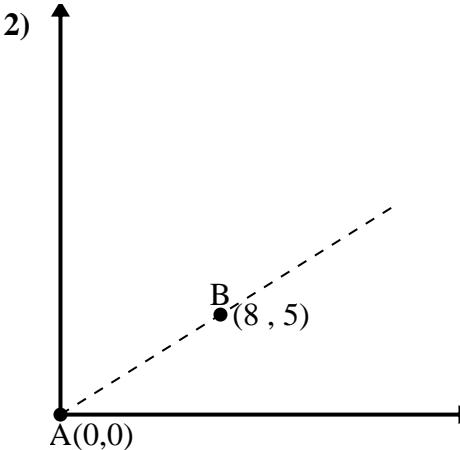
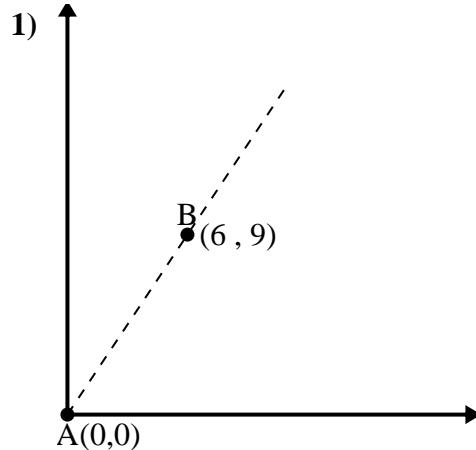
2. **30.96°**

3. **45°**

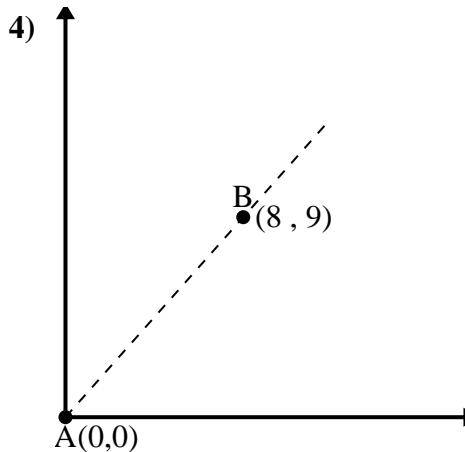
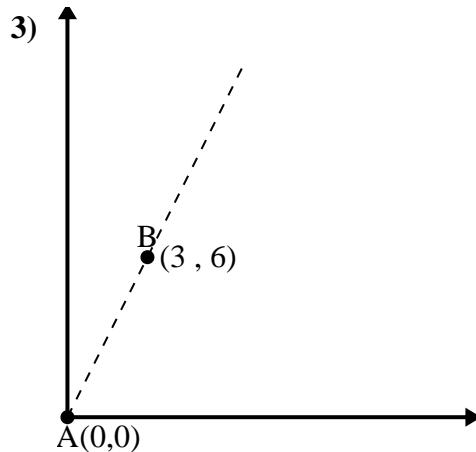
4. **33.69°**

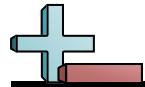


Use the law of Cosines to find the point B's angle relative to point A.

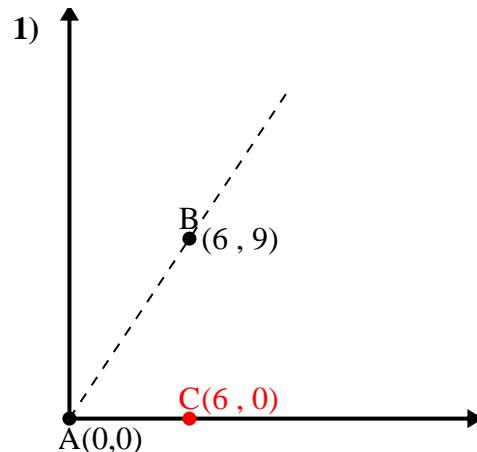
**Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_





Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 10.82$$

$$\overline{AC} \text{ length} = 6$$

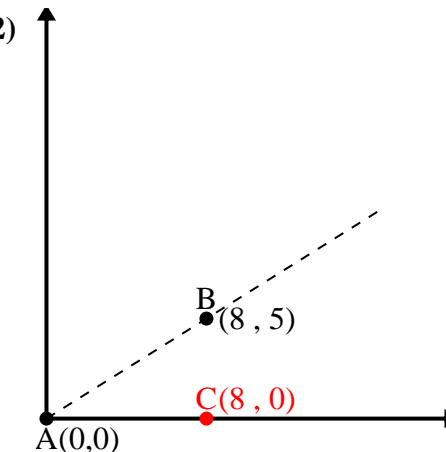
$$\overline{BC} \text{ length} = 9$$

$$(117 + 36 + 81) \div (2 \times 10.82 \times 6)$$

$$0.55$$

$$\cos^{-1}(0.55)$$

$$56.31^\circ$$



$$\overline{AB} \text{ length} = 9.43$$

$$\overline{AC} \text{ length} = 8$$

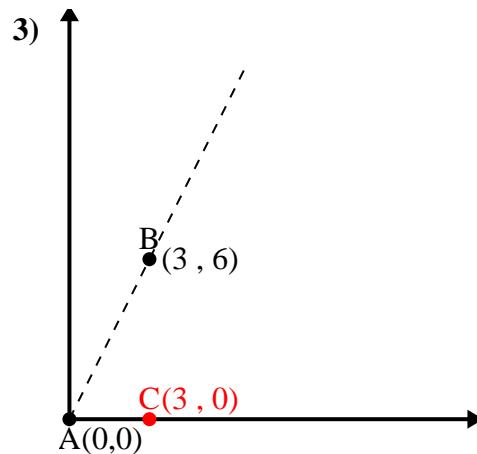
$$\overline{BC} \text{ length} = 5$$

$$(89 + 64 + 25) \div (2 \times 9.43 \times 8)$$

$$0.85$$

$$\cos^{-1}(0.85)$$

$$32.01^\circ$$



$$\overline{AB} \text{ length} = 6.71$$

$$\overline{AC} \text{ length} = 3$$

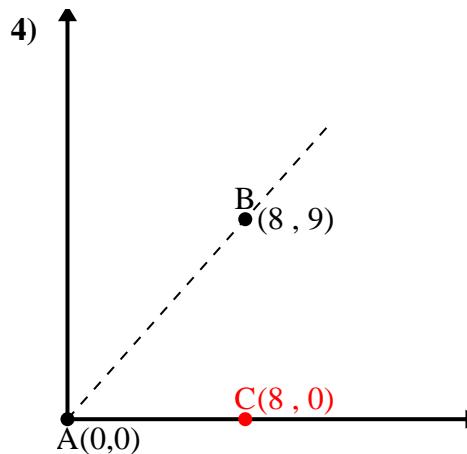
$$\overline{BC} \text{ length} = 6$$

$$(45 + 9 + 36) \div (2 \times 6.71 \times 3)$$

$$0.45$$

$$\cos^{-1}(0.45)$$

$$63.43^\circ$$



$$\overline{AB} \text{ length} = 12.04$$

$$\overline{AC} \text{ length} = 8$$

$$\overline{BC} \text{ length} = 9$$

$$(145 + 64 + 81) \div (2 \times 12.04 \times 8)$$

$$0.66$$

$$\cos^{-1}(0.66)$$

$$48.37^\circ$$

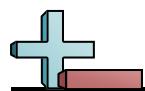
### Answers

1. **56.31°**

2. **32.01°**

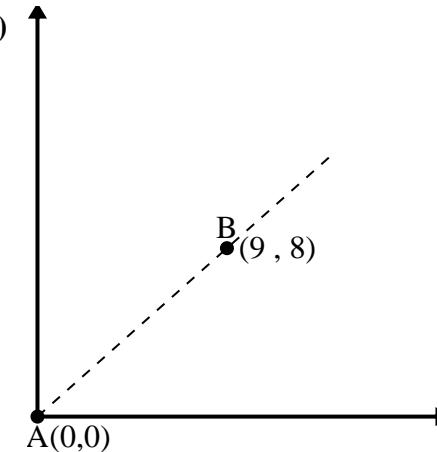
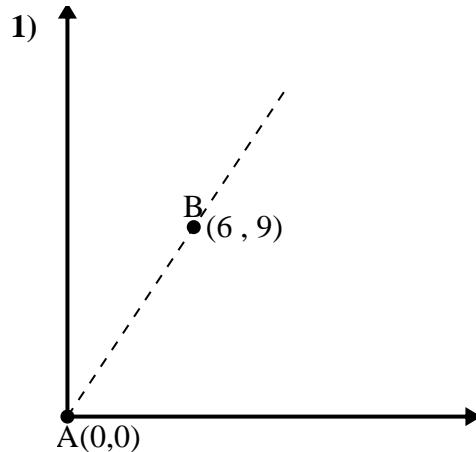
3. **63.43°**

4. **48.37°**

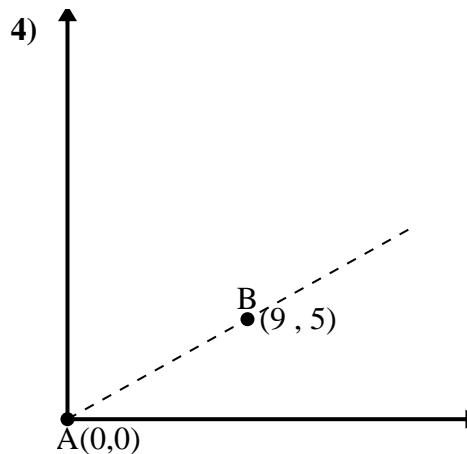
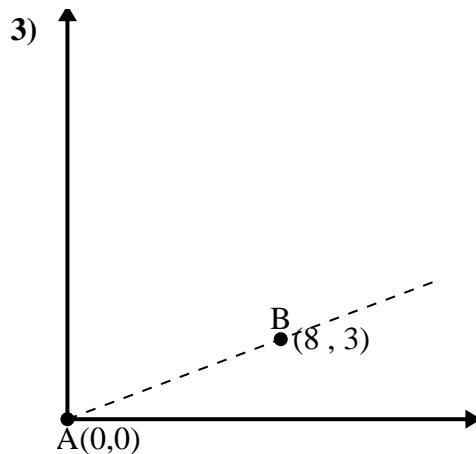


## Applying the Law of Cosines

Name: \_\_\_\_\_

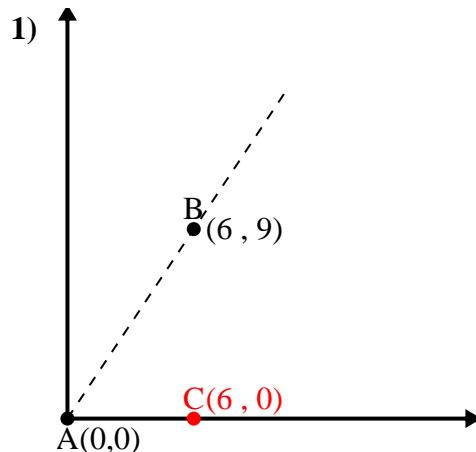
**Use the law of Cosines to find the point B's angle relative to point A.****Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_





Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 10.82$$

$$\overline{AC} \text{ length} = 6$$

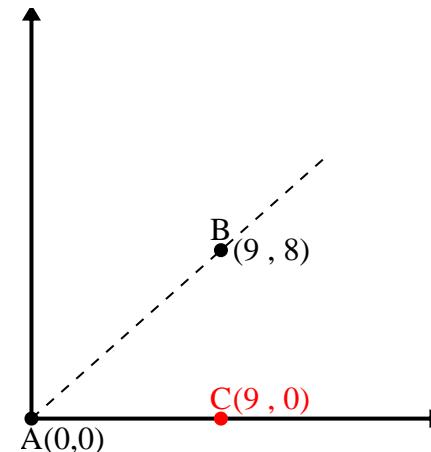
$$\overline{BC} \text{ length} = 9$$

$$(117 + 36 + 81) \div (2 \times 10.82 \times 6)$$

$$0.55$$

$$\cos^{-1}(0.55)$$

$$56.31^\circ$$



$$\overline{AB} \text{ length} = 12.04$$

$$\overline{AC} \text{ length} = 9$$

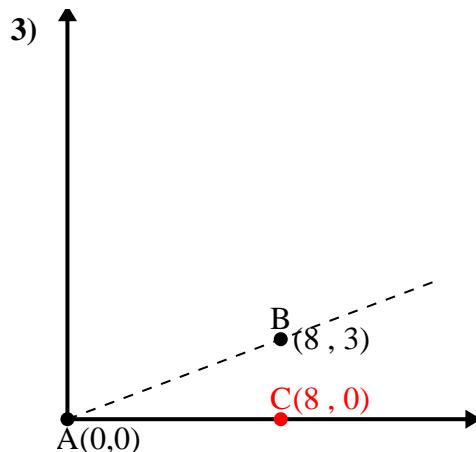
$$\overline{BC} \text{ length} = 8$$

$$(145 + 81 + 64) \div (2 \times 12.04 \times 9)$$

$$0.75$$

$$\cos^{-1}(0.75)$$

$$41.63^\circ$$



$$\overline{AB} \text{ length} = 8.54$$

$$\overline{AC} \text{ length} = 8$$

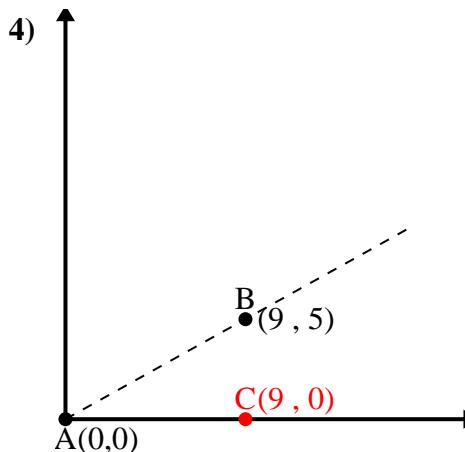
$$\overline{BC} \text{ length} = 3$$

$$(73 + 64 + 9) \div (2 \times 8.54 \times 8)$$

$$0.94$$

$$\cos^{-1}(0.94)$$

$$20.56^\circ$$



$$\overline{AB} \text{ length} = 10.3$$

$$\overline{AC} \text{ length} = 9$$

$$\overline{BC} \text{ length} = 5$$

$$(106 + 81 + 25) \div (2 \times 10.3 \times 9)$$

$$0.87$$

$$\cos^{-1}(0.87)$$

$$29.05^\circ$$

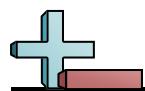
### Answers

1. **56.31°**

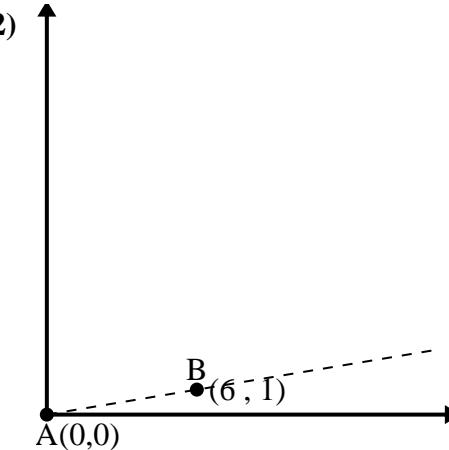
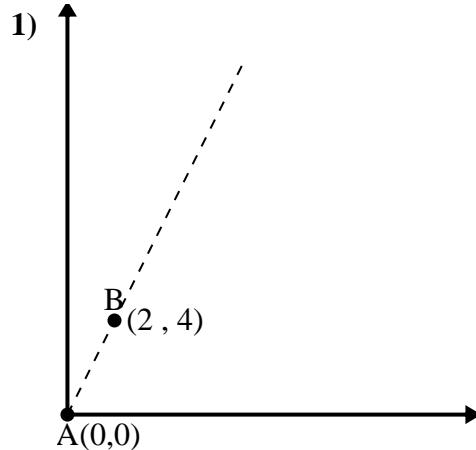
2. **41.63°**

3. **20.56°**

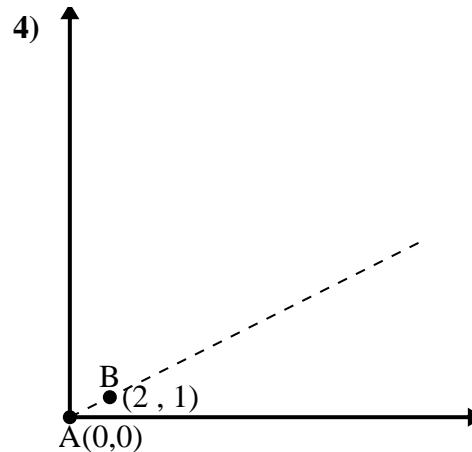
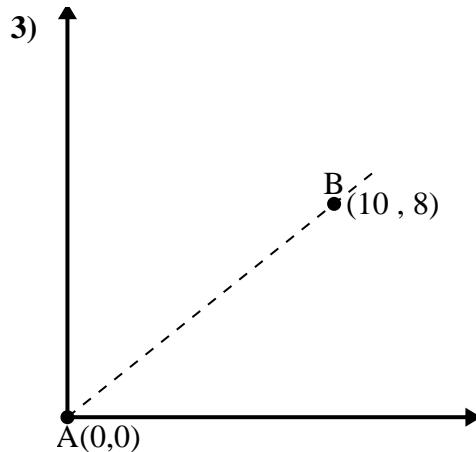
4. **29.05°**

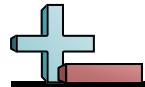


Use the law of Cosines to find the point B's angle relative to point A.

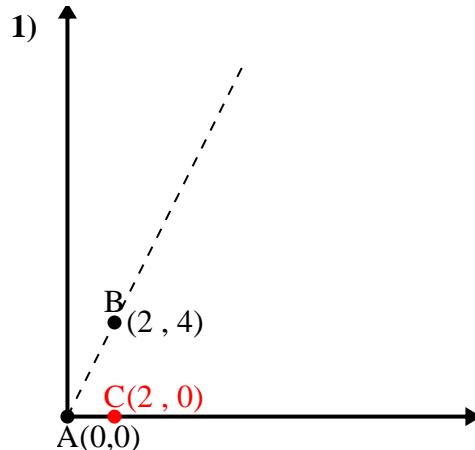
**Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_





Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 4.47$$

$$\overline{AC} \text{ length} = 2$$

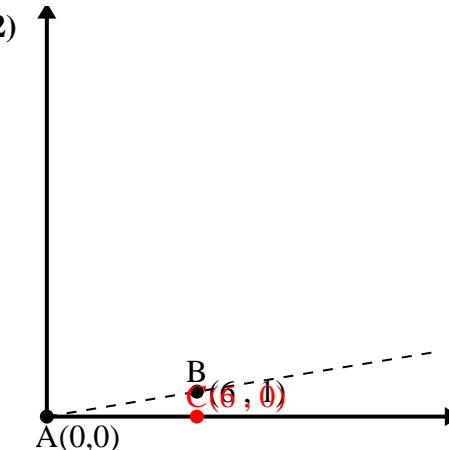
$$\overline{BC} \text{ length} = 4$$

$$(20 + 4 + 16) \div (2 \times 4.47 \times 2)$$

$$0.45$$

$$\cos^{-1}(0.45)$$

$$63.43^\circ$$



$$\overline{AB} \text{ length} = 6.08$$

$$\overline{AC} \text{ length} = 6$$

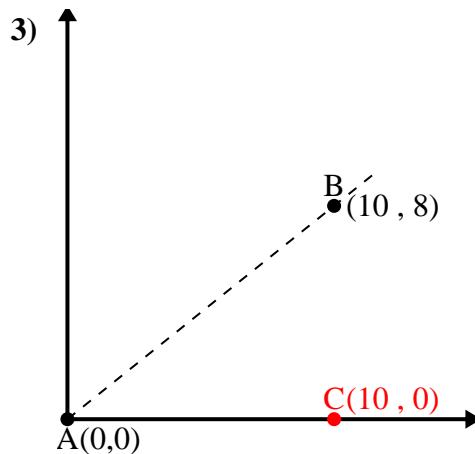
$$\overline{BC} \text{ length} = 1$$

$$(37 + 36 + 1) \div (2 \times 6.08 \times 6)$$

$$0.99$$

$$\cos^{-1}(0.99)$$

$$9.46^\circ$$



$$\overline{AB} \text{ length} = 12.81$$

$$\overline{AC} \text{ length} = 10$$

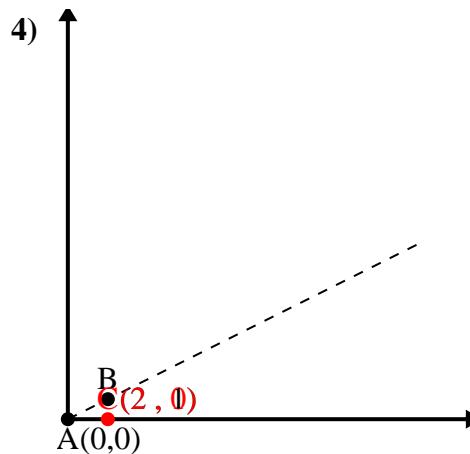
$$\overline{BC} \text{ length} = 8$$

$$(164 + 100 + 64) \div (2 \times 12.81 \times 10)$$

$$0.78$$

$$\cos^{-1}(0.78)$$

$$38.66^\circ$$



$$\overline{AB} \text{ length} = 2.24$$

$$\overline{AC} \text{ length} = 2$$

$$\overline{BC} \text{ length} = 1$$

$$(5 + 4 + 1) \div (2 \times 2.24 \times 2)$$

$$0.89$$

$$\cos^{-1}(0.89)$$

$$26.57^\circ$$

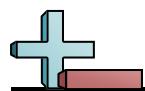
### Answers

1. **63.43°**

2. **9.46°**

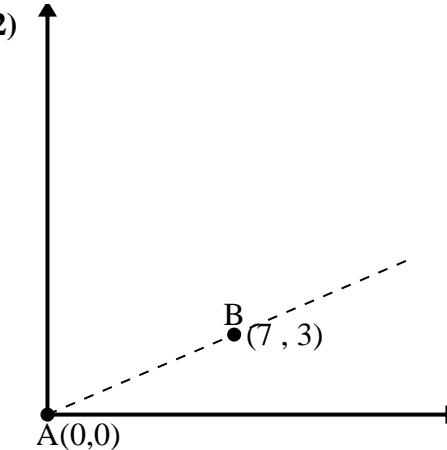
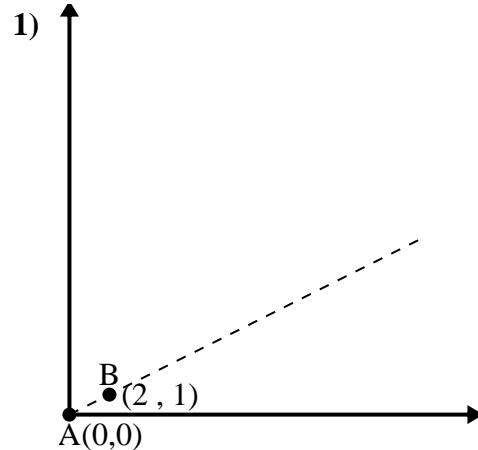
3. **38.66°**

4. **26.57°**

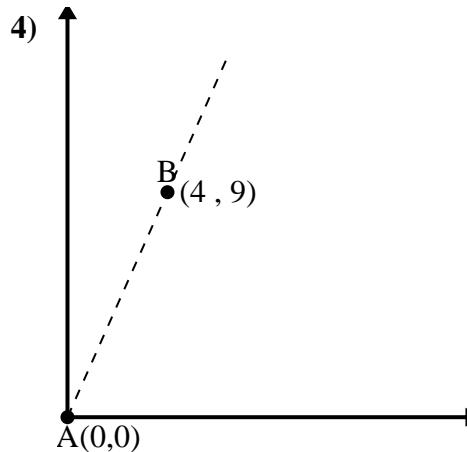
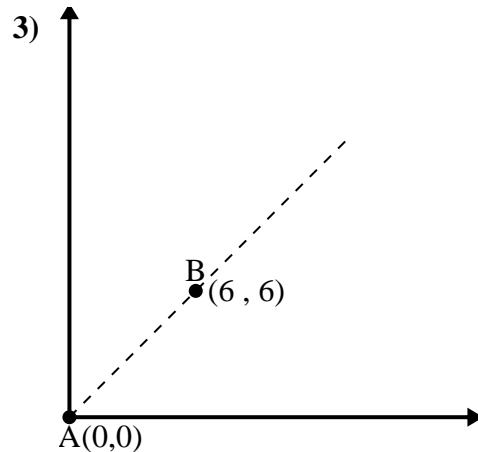


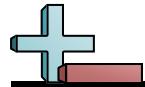
## Applying the Law of Cosines

Name: \_\_\_\_\_

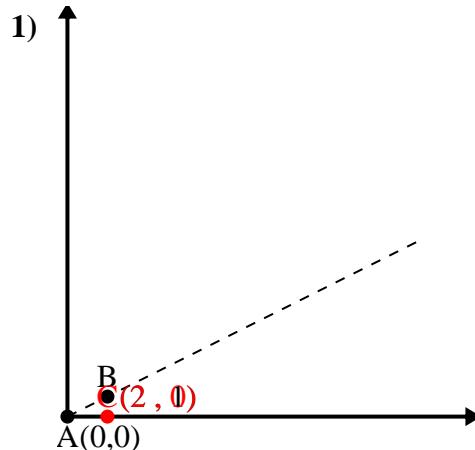
**Use the law of Cosines to find the point B's angle relative to point A.****Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_





Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 2.24$$

$$\overline{AC} \text{ length} = 2$$

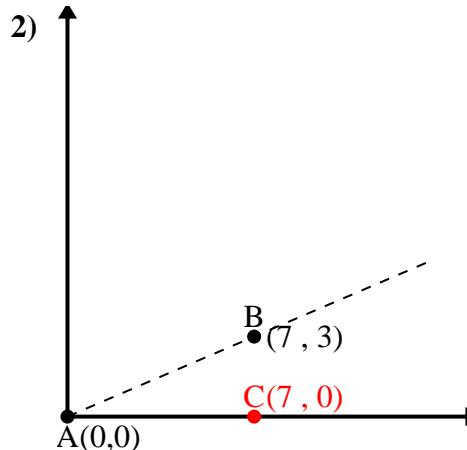
$$\overline{BC} \text{ length} = 1$$

$$(5 + 4 + 1) \div (2 \times 2.24 \times 2)$$

$$0.89$$

$$\cos^{-1}(0.89)$$

$$26.57^\circ$$



$$\overline{AB} \text{ length} = 7.62$$

$$\overline{AC} \text{ length} = 7$$

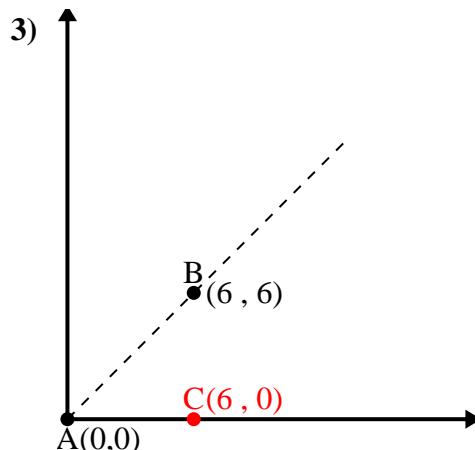
$$\overline{BC} \text{ length} = 3$$

$$(58 + 49 + 9) \div (2 \times 7.62 \times 7)$$

$$0.92$$

$$\cos^{-1}(0.92)$$

$$23.2^\circ$$



$$\overline{AB} \text{ length} = 8.49$$

$$\overline{AC} \text{ length} = 6$$

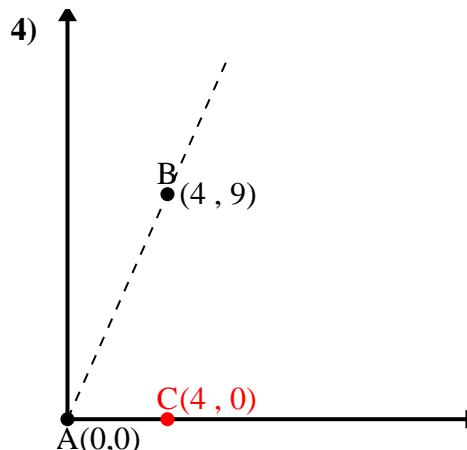
$$\overline{BC} \text{ length} = 6$$

$$(72 + 36 + 36) \div (2 \times 8.49 \times 6)$$

$$0.71$$

$$\cos^{-1}(0.71)$$

$$45^\circ$$



$$\overline{AB} \text{ length} = 9.85$$

$$\overline{AC} \text{ length} = 4$$

$$\overline{BC} \text{ length} = 9$$

$$(97 + 16 + 81) \div (2 \times 9.85 \times 4)$$

$$0.41$$

$$\cos^{-1}(0.41)$$

$$66.04^\circ$$

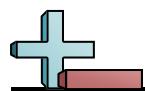
### Answers

1. **26.57°**

2. **23.2°**

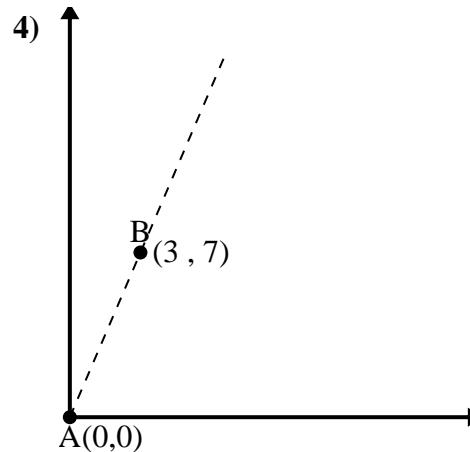
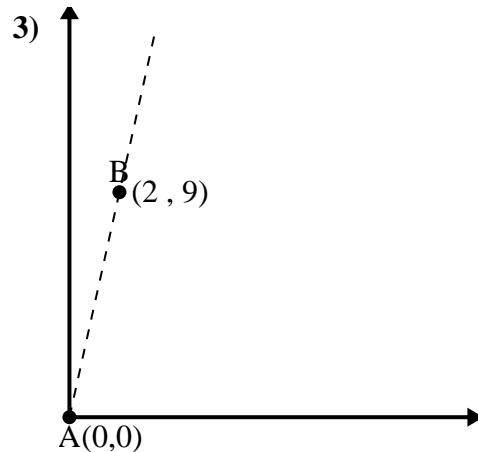
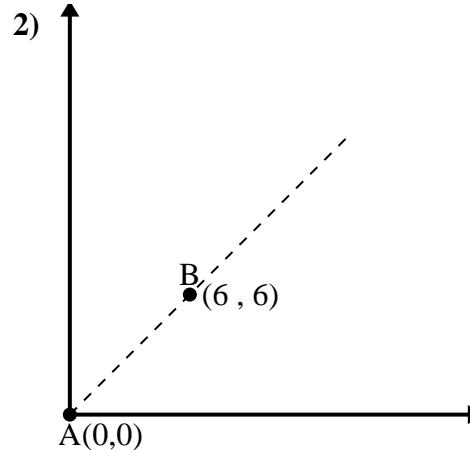
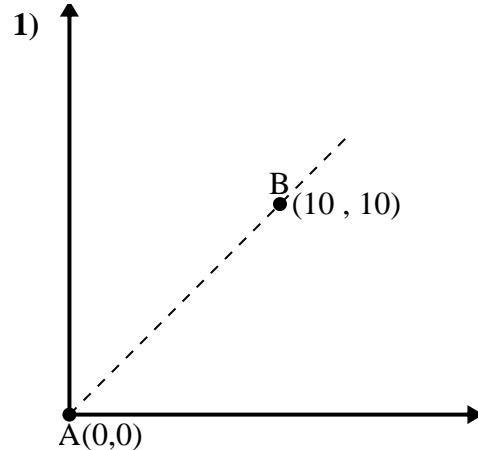
3. **45°**

4. **66.04°**



## Applying the Law of Cosines

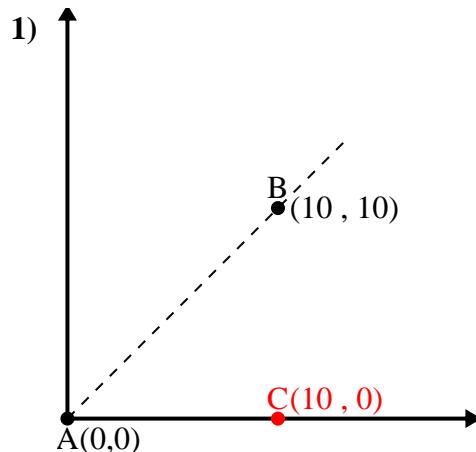
Name: \_\_\_\_\_

**Use the law of Cosines to find the point B's angle relative to point A.****Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_



Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 14.14$$

$$\overline{AC} \text{ length} = 10$$

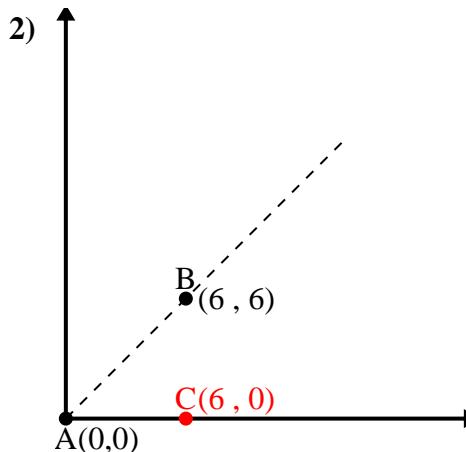
$$\overline{BC} \text{ length} = 10$$

$$(200 + 100 + 100) \div (2 \times 14.14 \times 10)$$

$$0.71$$

$$\cos^{-1}(0.71)$$

$$45^\circ$$



$$\overline{AB} \text{ length} = 8.49$$

$$\overline{AC} \text{ length} = 6$$

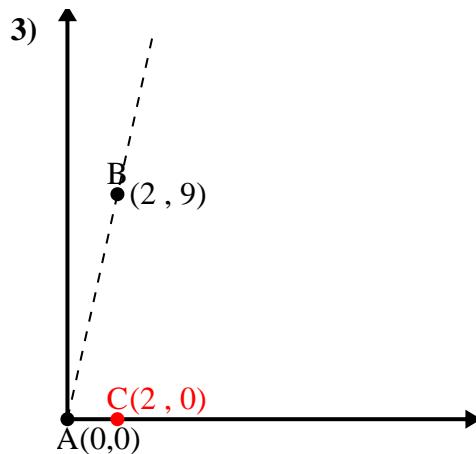
$$\overline{BC} \text{ length} = 6$$

$$(72 + 36 + 36) \div (2 \times 8.49 \times 6)$$

$$0.71$$

$$\cos^{-1}(0.71)$$

$$45^\circ$$



$$\overline{AB} \text{ length} = 9.22$$

$$\overline{AC} \text{ length} = 2$$

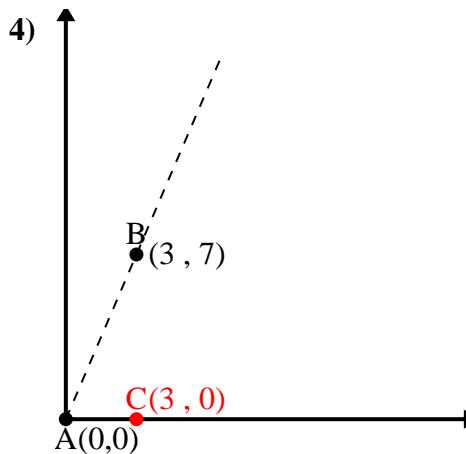
$$\overline{BC} \text{ length} = 9$$

$$(85 + 4 + 81) \div (2 \times 9.22 \times 2)$$

$$0.22$$

$$\cos^{-1}(0.22)$$

$$77.47^\circ$$



$$\overline{AB} \text{ length} = 7.62$$

$$\overline{AC} \text{ length} = 3$$

$$\overline{BC} \text{ length} = 7$$

$$(58 + 9 + 49) \div (2 \times 7.62 \times 3)$$

$$0.39$$

$$\cos^{-1}(0.39)$$

$$66.8^\circ$$

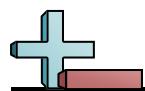
### Answers

1.  $45^\circ$

2.  $45^\circ$

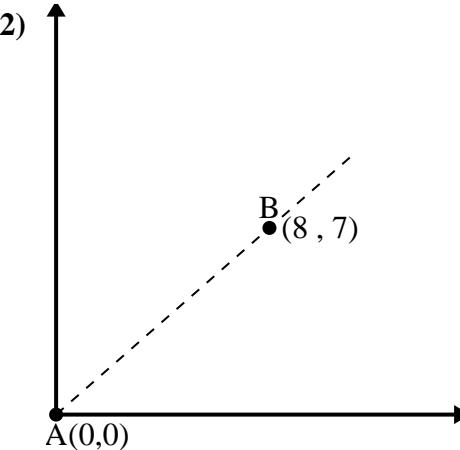
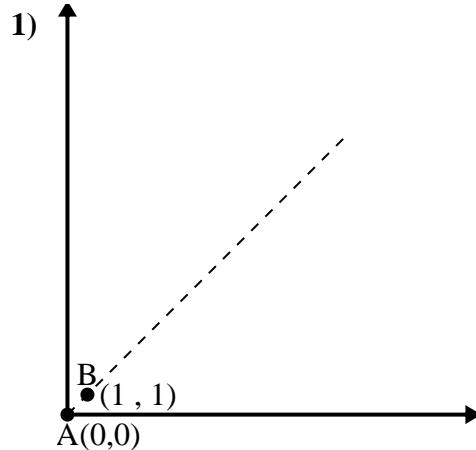
3.  $77.47^\circ$

4.  $66.8^\circ$

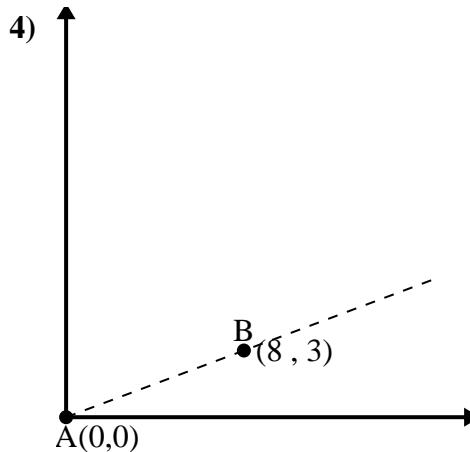
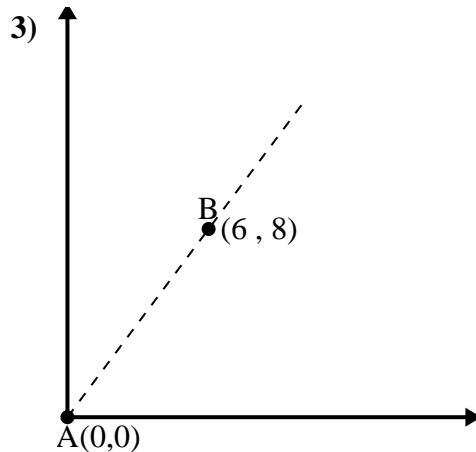


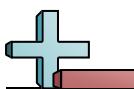
## Applying the Law of Cosines

Name: \_\_\_\_\_

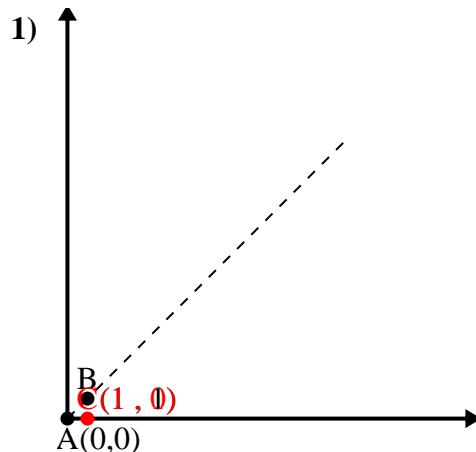
**Use the law of Cosines to find the point B's angle relative to point A.****Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_





Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 1.41$$

$$\overline{AC} \text{ length} = 1$$

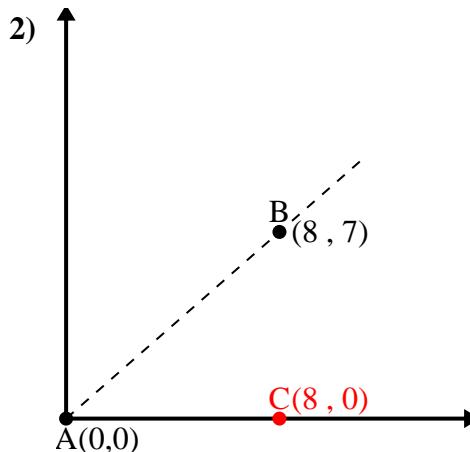
$$\overline{BC} \text{ length} = 1$$

$$(2 + 1 + 1) \div (2 \times 1.41 \times 1)$$

$$0.71$$

$$\cos^{-1}(0.71)$$

$$45^\circ$$



$$\overline{AB} \text{ length} = 10.63$$

$$\overline{AC} \text{ length} = 8$$

$$\overline{BC} \text{ length} = 7$$

$$(113 + 64 + 49) \div (2 \times 10.63 \times 8)$$

$$0.75$$

$$\cos^{-1}(0.75)$$

$$41.19^\circ$$

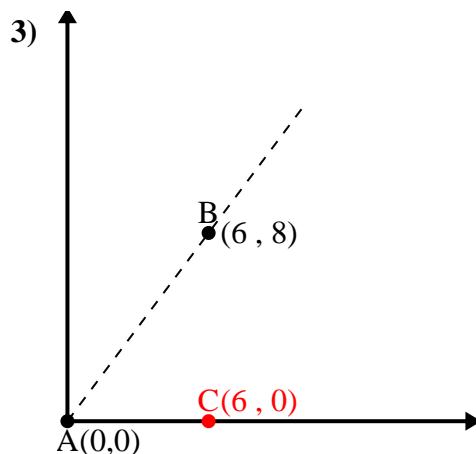
### Answers

1. **45°**

2. **41.19°**

3. **53.13°**

4. **20.56°**



$$\overline{AB} \text{ length} = 10$$

$$\overline{AC} \text{ length} = 6$$

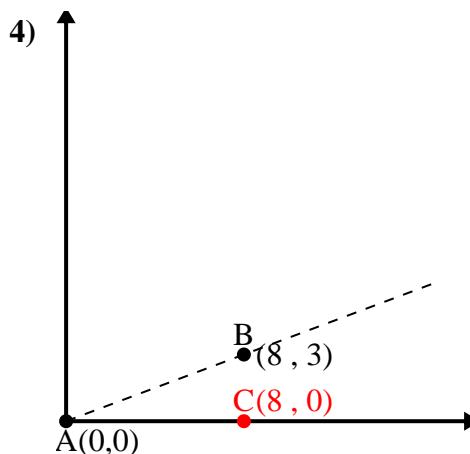
$$\overline{BC} \text{ length} = 8$$

$$(100 + 36 + 64) \div (2 \times 10 \times 6)$$

$$0.6$$

$$\cos^{-1}(0.6)$$

$$53.13^\circ$$



$$\overline{AB} \text{ length} = 8.54$$

$$\overline{AC} \text{ length} = 8$$

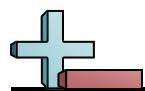
$$\overline{BC} \text{ length} = 3$$

$$(73 + 64 + 9) \div (2 \times 8.54 \times 8)$$

$$0.94$$

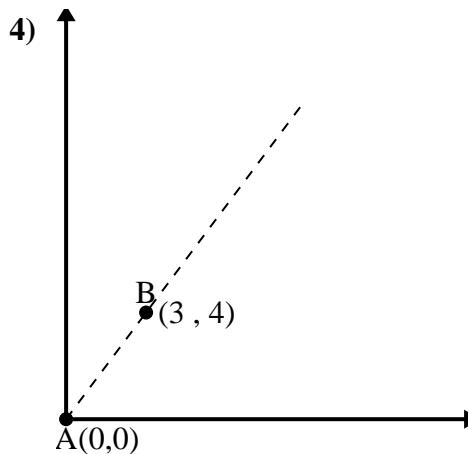
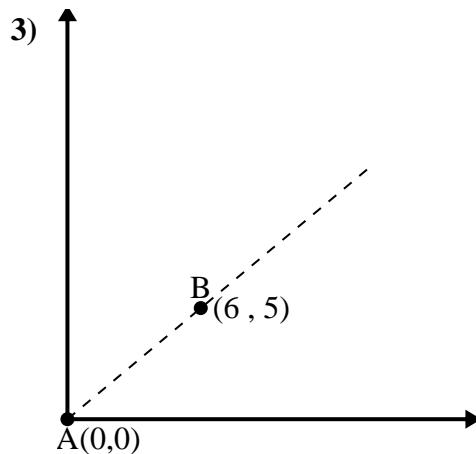
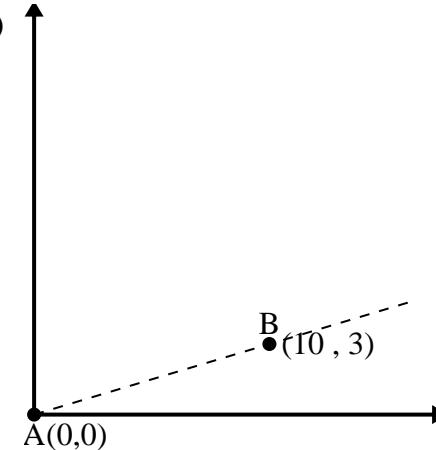
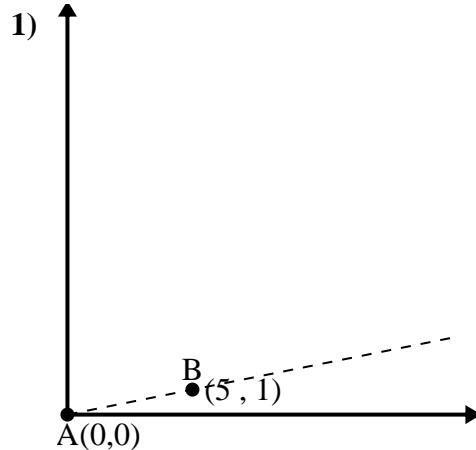
$$\cos^{-1}(0.94)$$

$$20.56^\circ$$

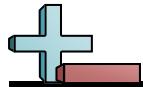


## Applying the Law of Cosines

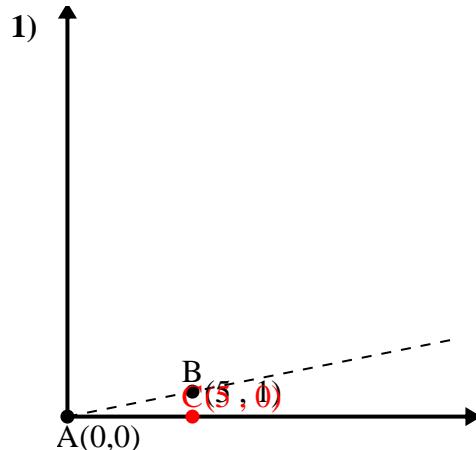
Name: \_\_\_\_\_

**Use the law of Cosines to find the point B's angle relative to point A.****Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_



Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 5.1$$

$$\overline{AC} \text{ length} = 5$$

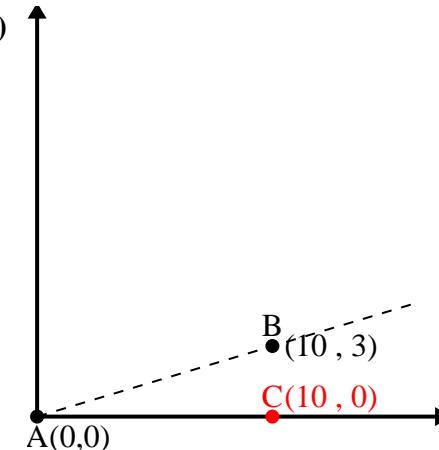
$$\overline{BC} \text{ length} = 1$$

$$(26 + 25 + 1) \div (2 \times 5.1 \times 5)$$

$$0.98$$

$$\cos^{-1}(0.98)$$

$$11.31^\circ$$



$$\overline{AB} \text{ length} = 10.44$$

$$\overline{AC} \text{ length} = 10$$

$$\overline{BC} \text{ length} = 3$$

$$(109 + 100 + 9) \div (2 \times 10.44 \times 10)$$

$$0.96$$

$$\cos^{-1}(0.96)$$

$$16.7^\circ$$

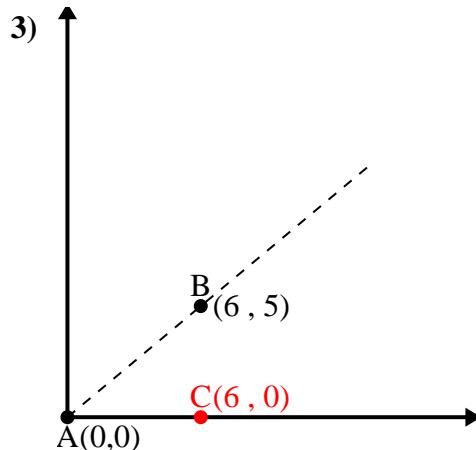
### Answers

1. **11.31°**

2. **16.7°**

3. **39.81°**

4. **53.13°**



$$\overline{AB} \text{ length} = 7.81$$

$$\overline{AC} \text{ length} = 6$$

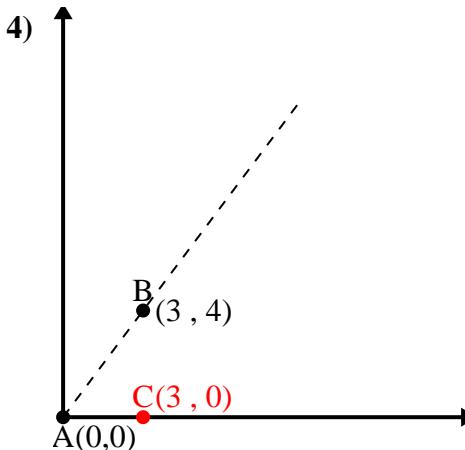
$$\overline{BC} \text{ length} = 5$$

$$(61 + 36 + 25) \div (2 \times 7.81 \times 6)$$

$$0.77$$

$$\cos^{-1}(0.77)$$

$$39.81^\circ$$



$$\overline{AB} \text{ length} = 5$$

$$\overline{AC} \text{ length} = 3$$

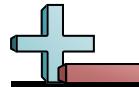
$$\overline{BC} \text{ length} = 4$$

$$(25 + 9 + 16) \div (2 \times 5 \times 3)$$

$$0.6$$

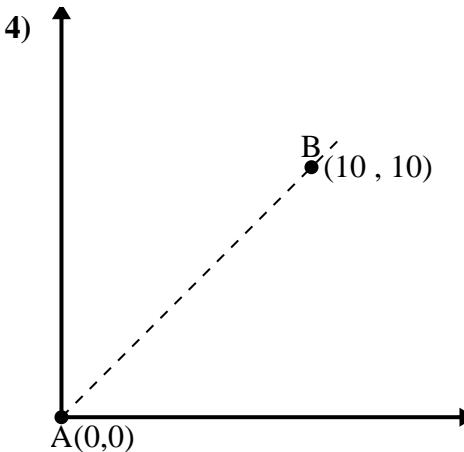
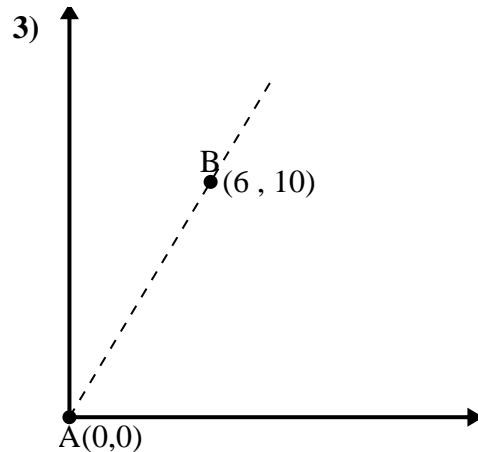
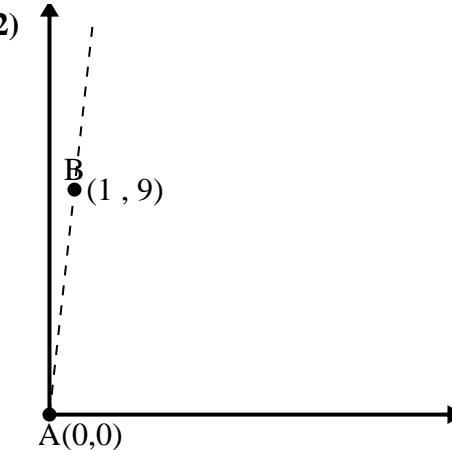
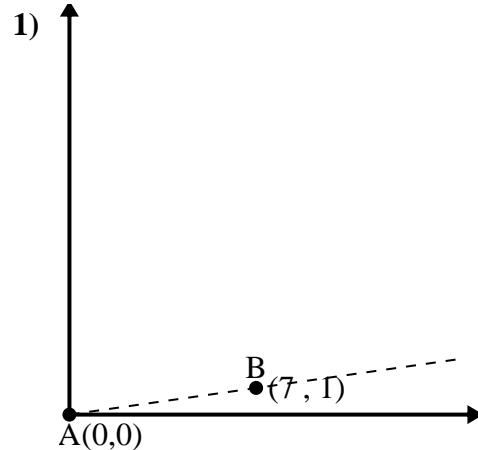
$$\cos^{-1}(0.6)$$

$$53.13^\circ$$

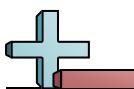


## Applying the Law of Cosines

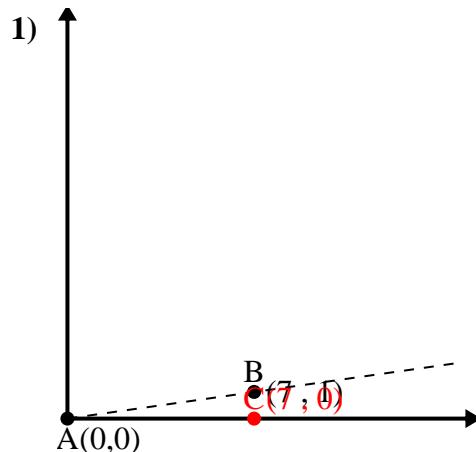
Name: \_\_\_\_\_

**Use the law of Cosines to find the point B's angle relative to point A.****Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_



Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 7.07$$

$$\overline{AC} \text{ length} = 7$$

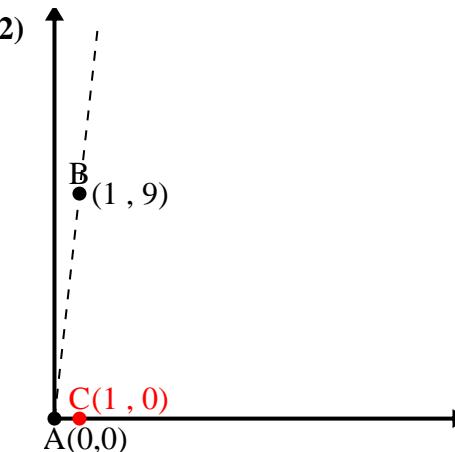
$$\overline{BC} \text{ length} = 1$$

$$(50 + 49 + 1) \div (2 \times 7.07 \times 7)$$

$$0.99$$

$$\cos^{-1}(0.99)$$

$$8.13^\circ$$



$$\overline{AB} \text{ length} = 9.06$$

$$\overline{AC} \text{ length} = 1$$

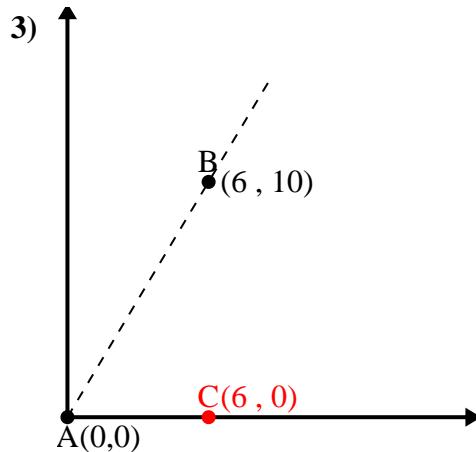
$$\overline{BC} \text{ length} = 9$$

$$(82 + 1 + 81) \div (2 \times 9.06 \times 1)$$

$$0.11$$

$$\cos^{-1}(0.11)$$

$$83.66^\circ$$



$$\overline{AB} \text{ length} = 11.66$$

$$\overline{AC} \text{ length} = 6$$

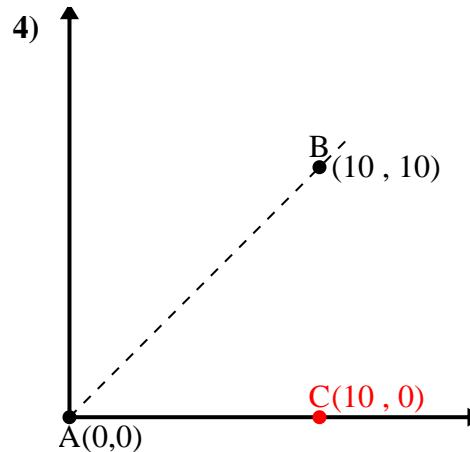
$$\overline{BC} \text{ length} = 10$$

$$(136 + 36 + 100) \div (2 \times 11.66 \times 6)$$

$$0.51$$

$$\cos^{-1}(0.51)$$

$$59.04^\circ$$



$$\overline{AB} \text{ length} = 14.14$$

$$\overline{AC} \text{ length} = 10$$

$$\overline{BC} \text{ length} = 10$$

$$(200 + 100 + 100) \div (2 \times 14.14 \times 10)$$

$$0.71$$

$$\cos^{-1}(0.71)$$

$$45^\circ$$

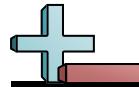
### Answers

1. **8.13°**

2. **83.66°**

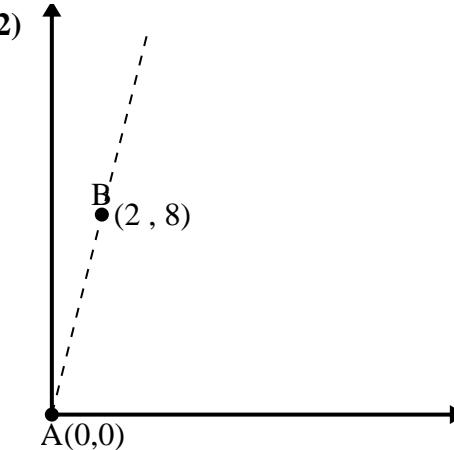
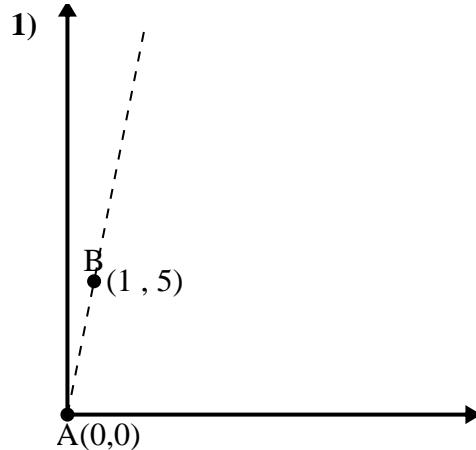
3. **59.04°**

4. **45°**

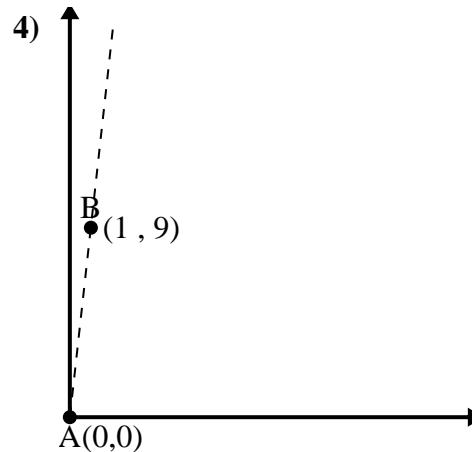
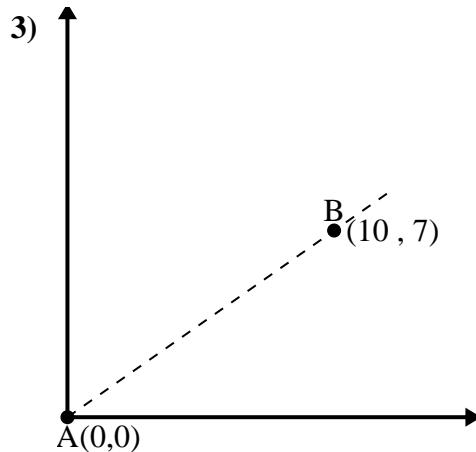


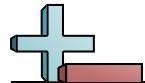
## Applying the Law of Cosines

Name: \_\_\_\_\_

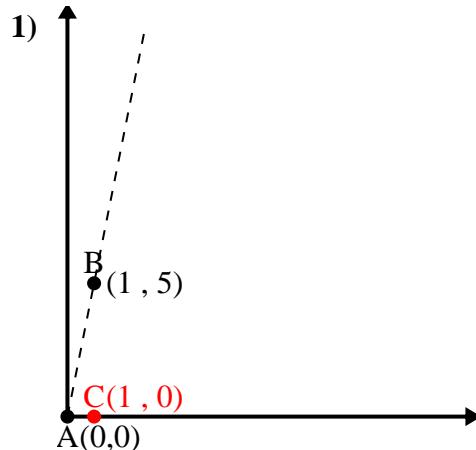
**Use the law of Cosines to find the point B's angle relative to point A.****Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_





Use the law of Cosines to find the point B's angle relative to point A.



$$\overline{AB} \text{ length} = 5.1$$

$$\overline{AC} \text{ length} = 1$$

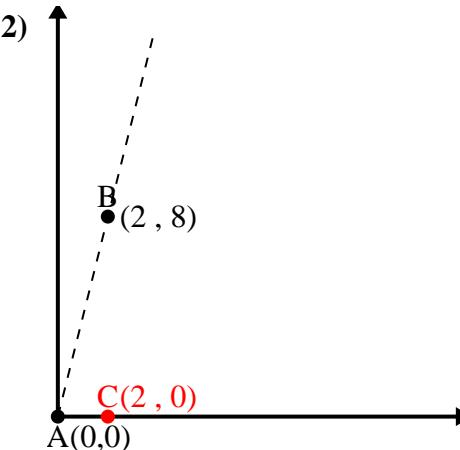
$$\overline{BC} \text{ length} = 5$$

$$(26 + 1 + 25) \div (2 \times 5.1 \times 1)$$

$$0.2$$

$$\cos^{-1}(0.2)$$

$$78.69^\circ$$



$$\overline{AB} \text{ length} = 8.25$$

$$\overline{AC} \text{ length} = 2$$

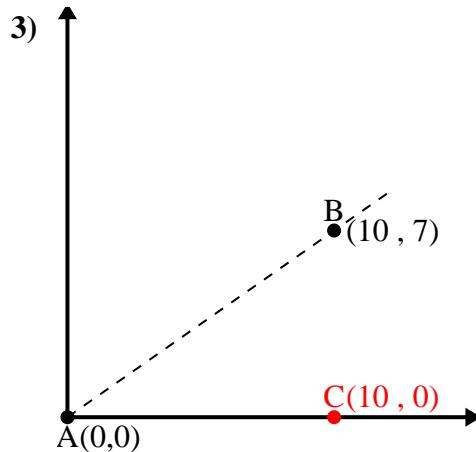
$$\overline{BC} \text{ length} = 8$$

$$(68 + 4 + 64) \div (2 \times 8.25 \times 2)$$

$$0.24$$

$$\cos^{-1}(0.24)$$

$$75.96^\circ$$



$$\overline{AB} \text{ length} = 12.21$$

$$\overline{AC} \text{ length} = 10$$

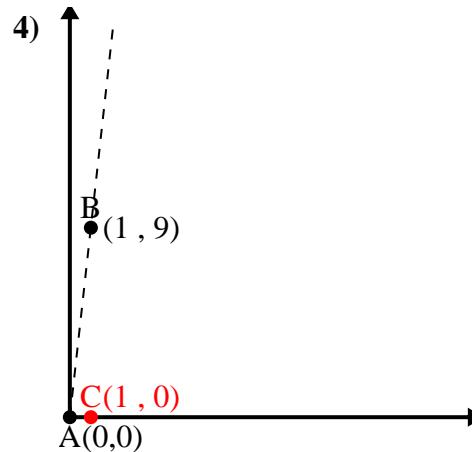
$$\overline{BC} \text{ length} = 7$$

$$(149 + 100 + 49) \div (2 \times 12.21 \times 10)$$

$$0.82$$

$$\cos^{-1}(0.82)$$

$$34.99^\circ$$



$$\overline{AB} \text{ length} = 9.06$$

$$\overline{AC} \text{ length} = 1$$

$$\overline{BC} \text{ length} = 9$$

$$(82 + 1 + 81) \div (2 \times 9.06 \times 1)$$

$$0.11$$

$$\cos^{-1}(0.11)$$

$$83.66^\circ$$

### Answers

1. **78.69°**

2. **75.96°**

3. **34.99°**

4. **83.66°**