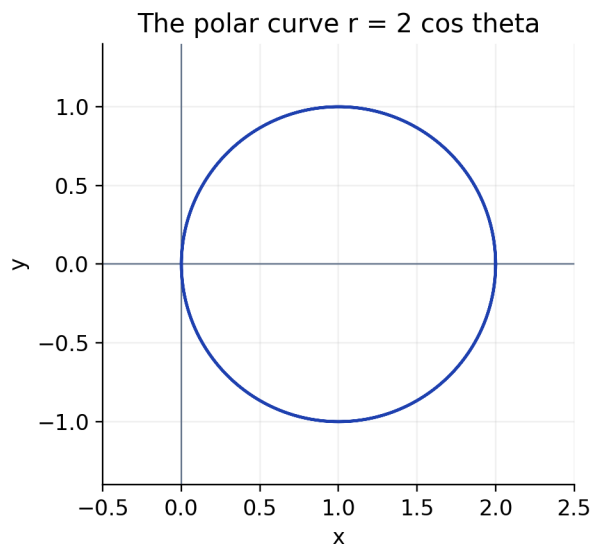


Lesson 3.1 · Practice

No calculator required | Name: _____

1. Identify the curve $r = 2\cos\theta$ and give its center and radius.



Convert the equation using $x = r \cos\theta$ and $r^2 = x^2 + y^2$.

2. Convert the polar point $(2, \pi/3)$ to rectangular coordinates.

Lesson 3.1 · Practice

No calculator required | Name: _____

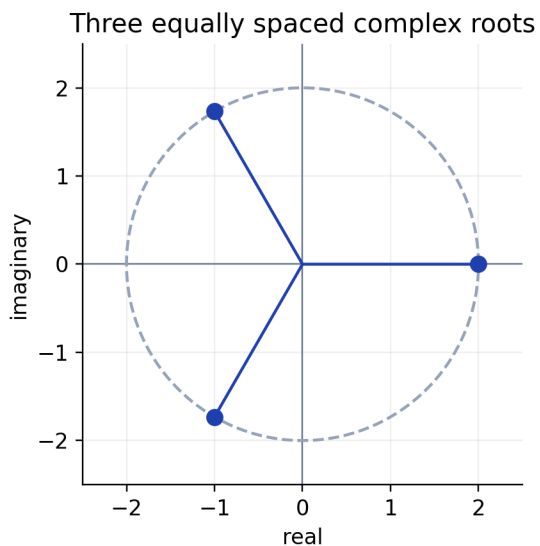
3. Give a positive-radius representation of $(-3, \pi/4)$.

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Lesson 3.2 · Practice

No calculator required | Name: _____

4. Find all three complex cube roots of 8.



Compare arguments spaced by 2π over 3.

5. Find the modulus and an argument of $-1 + i\sqrt{3}$.

Lesson 3.2 · Practice

No calculator required | Name: _____

6. Evaluate $(1 + i\sqrt{3})^3$.

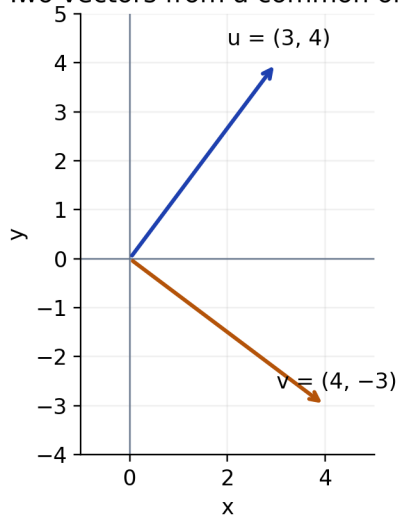
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Lesson 3.3 · Practice

No calculator required | Name: _____

7. For $u = \langle 3, 4 \rangle$ and $v = \langle 4, -3 \rangle$, find both magnitudes, the dot product, and the angle between them.

Two vectors from a common origin



Use components for magnitudes and the dot product.

8. Find a unit vector in the direction of $\langle 3, 4 \rangle$.

Lesson 3.3 · Practice

No calculator required | Name: _____

9. For $x = t + 1$, $y = t^2$, $0 \leq t \leq 2$, give a rectangular equation, restrictions, and direction.

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