

Question

What are the related rectangular coordinates to $(6, \frac{-7 \cdot \pi}{4})$?

Answer

Exact and Unsimplified

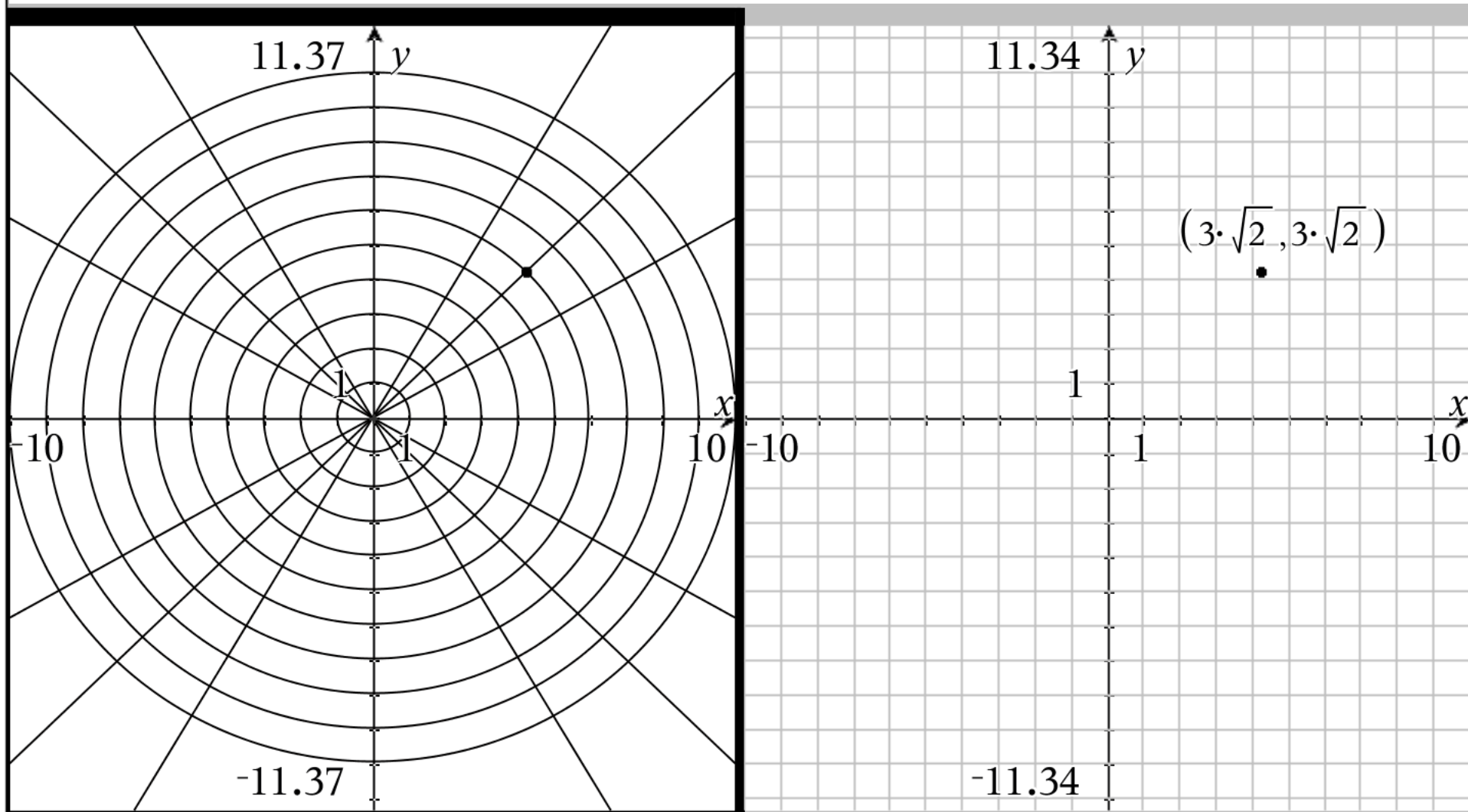
$$(6 \cos(\frac{-7 \cdot \pi}{4}), 6 \sin(\frac{-7 \cdot \pi}{4}))$$

Exact and simplified Approximate

$$(3 \cdot \sqrt{2}, 3 \cdot \sqrt{2}) \quad (4.24264, 4.24264)$$

Where is $(6, \frac{-7 \cdot \pi}{4})$?

$(4.24264, 4.24264)$



Question

What are the related rectangular coordinates to $(5, 120^\circ)$?

Answer



Exact and Unsimplified

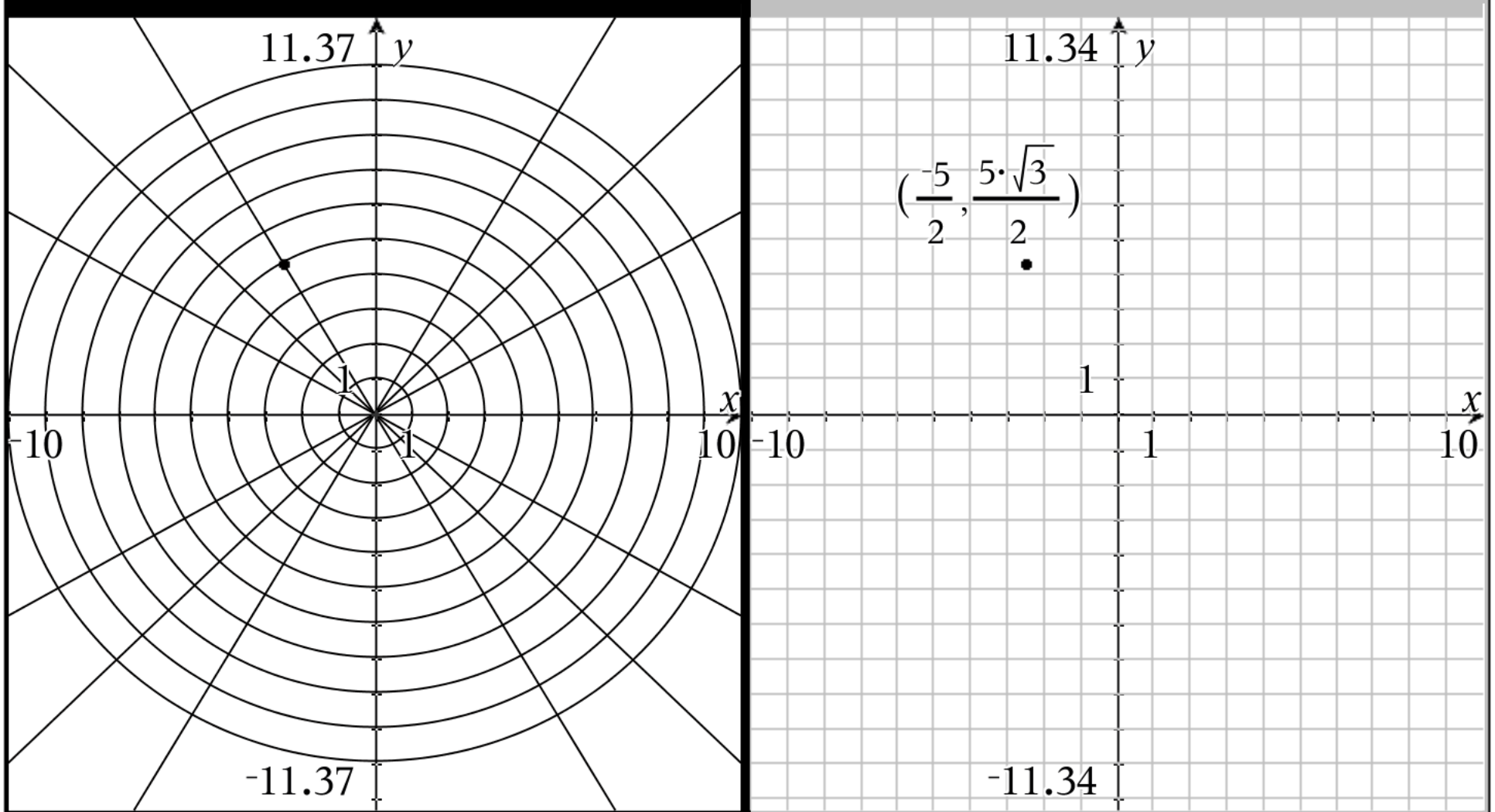
$$(5 \cos(120), 5 \sin(120))$$

Exact and simplified Approximate

$$\left(\frac{-5}{2}, \frac{5\sqrt{3}}{2}\right) \quad (-2.5, 4.33013)$$

Where is $(5, 120^\circ)$?

$(-2.5, 4.33013)$



Question

What are the related rectangular coordinates to $(5, -110^\circ)$?

Answer



Exact

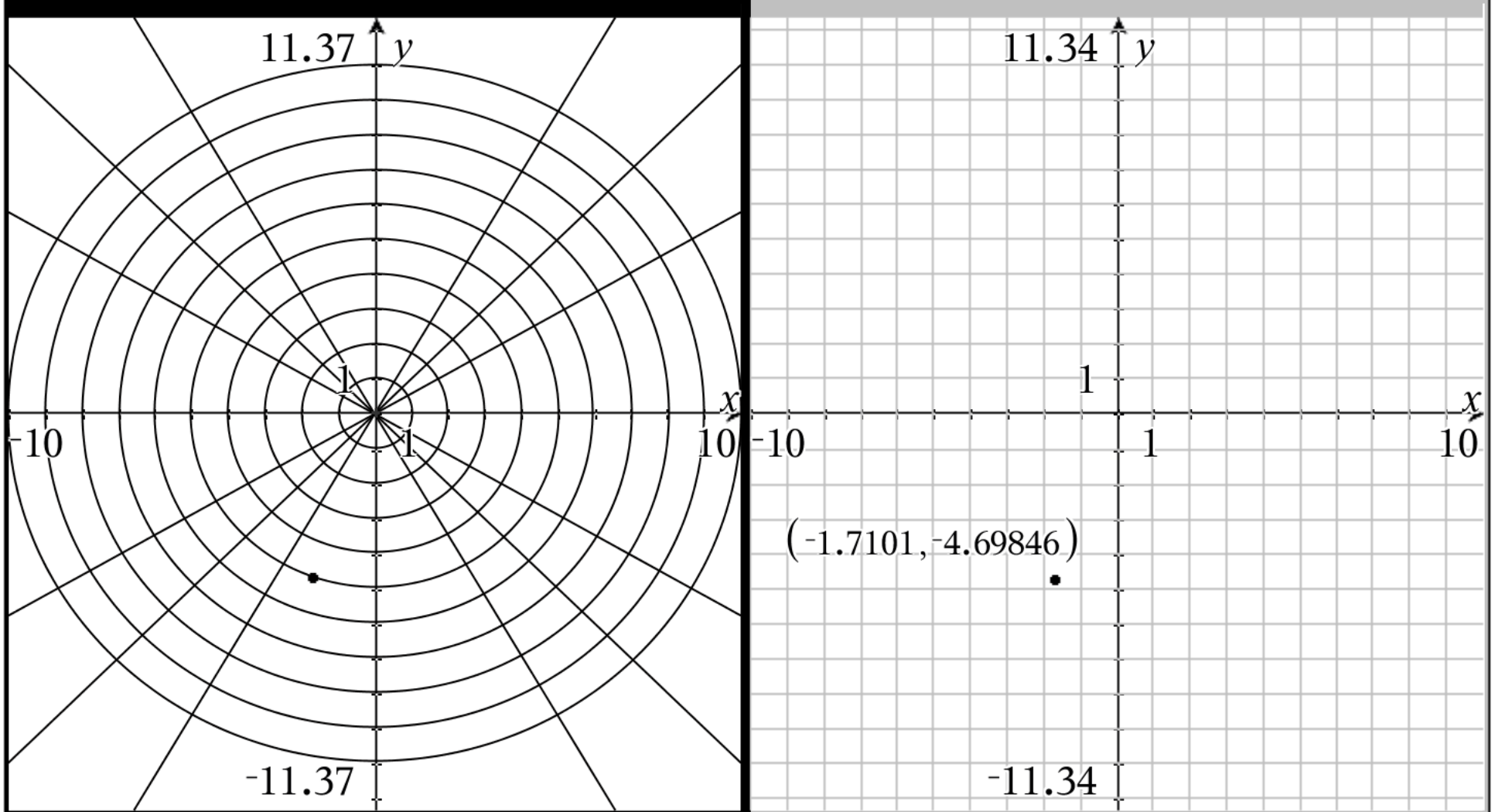
$(5\cos(-110), 5\sin(-110))$

Approximate

$(-1.7101, -4.69846)$

Where is $(5, -110^\circ)$?

$(-1.7101, -4.69846)$



Question

What are the related rectangular coordinates to $(6, 124^\circ)$?

Answer



Exact

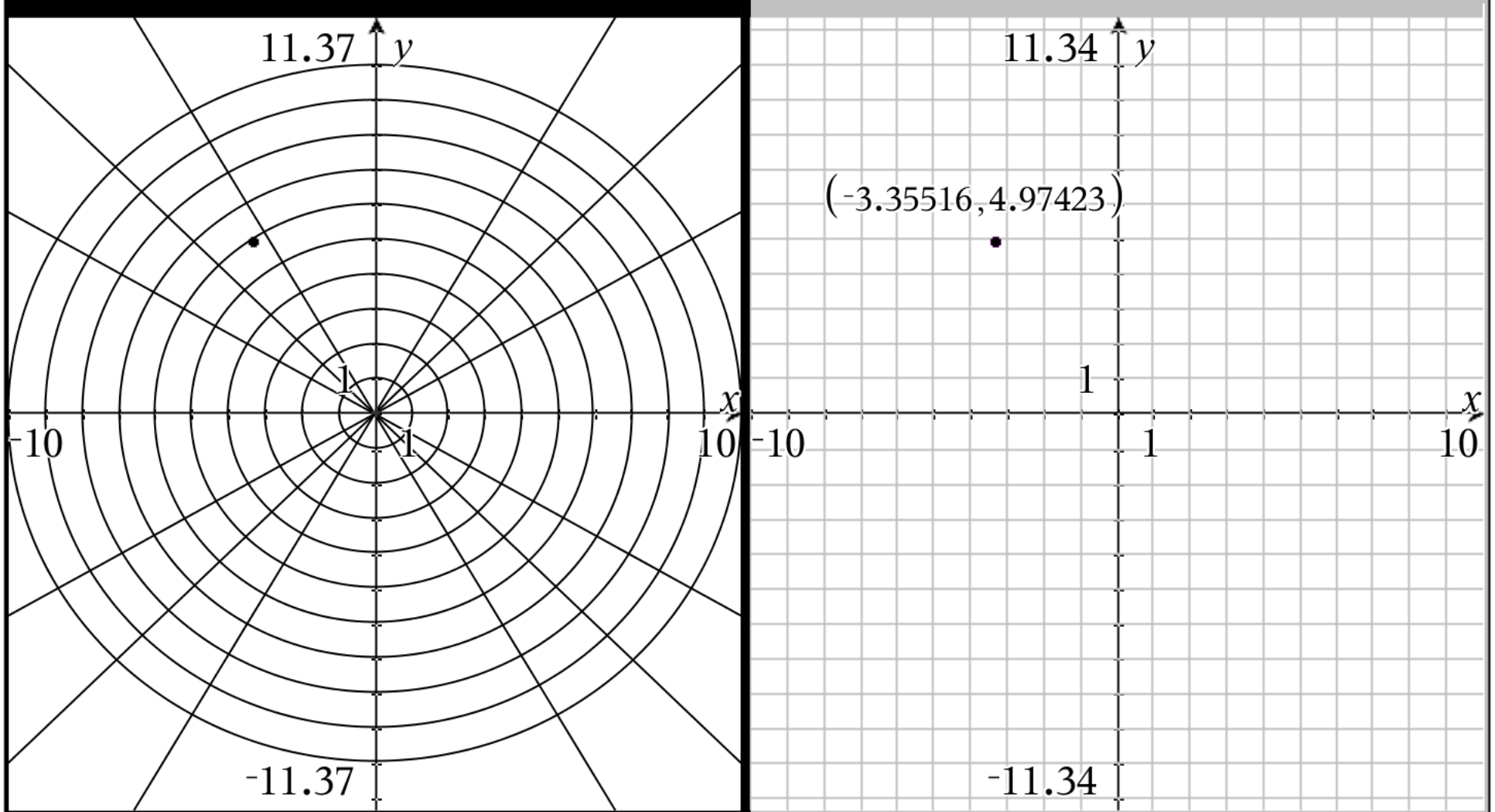
$(6\cos(124), 6\sin(124))$

Approximate

$(1 \cdot x_4 \triangleright -3.35516, 4.97423)$

Where is $(6, 124^\circ)$?

$(-3.35516, 4.97423)$



Question

What are the related rectangular coordinates to $(5, \frac{8 \cdot \pi}{7})$?

Answer



Exact

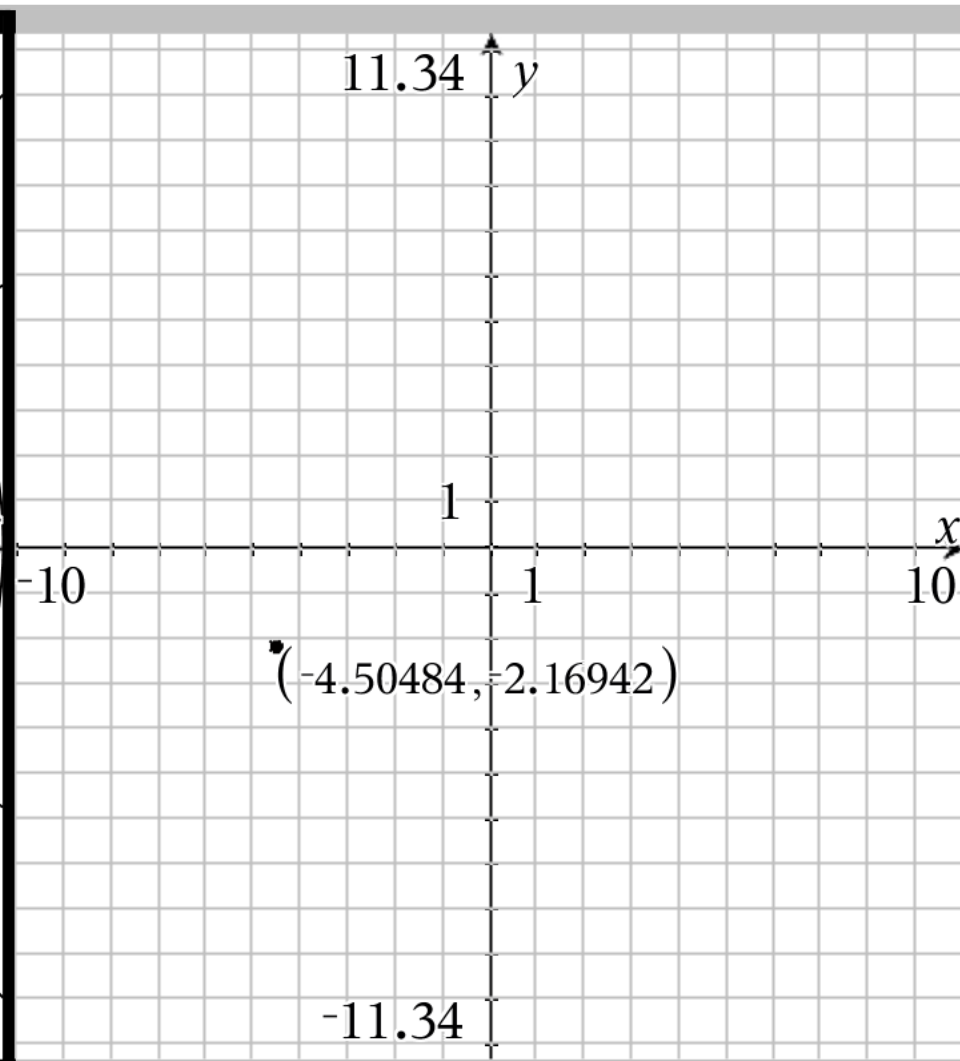
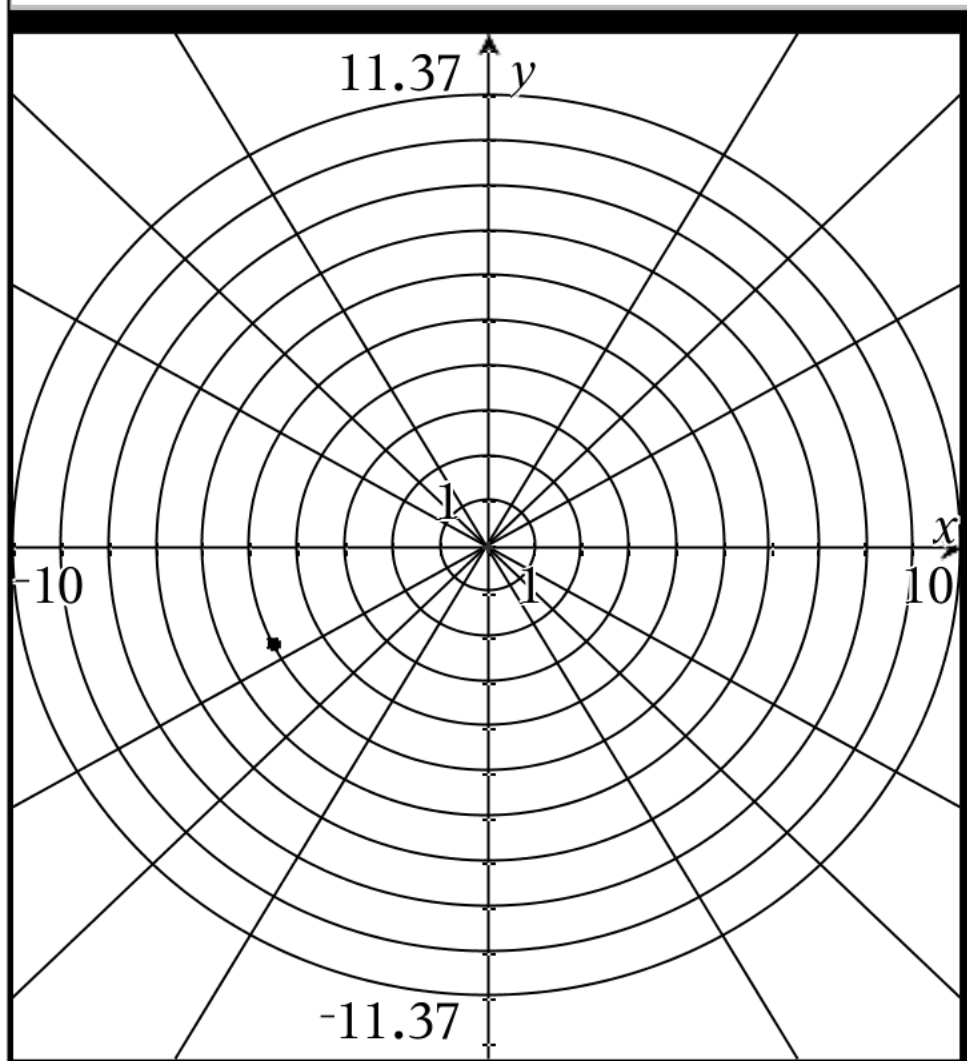
$$(5 \cos(\frac{8 \cdot \pi}{7}), 5 \sin(\frac{8 \cdot \pi}{7}))$$

Approximate

$$(-4.50484, -2.16942)$$

Where is $(5, \frac{8 \cdot \pi}{7})$? $(5, 205.714^\circ)$

$(-4.50484, -2.16942)$



Question

What are the polar coordinates related to $(7, -8)$?

Answer



Exact

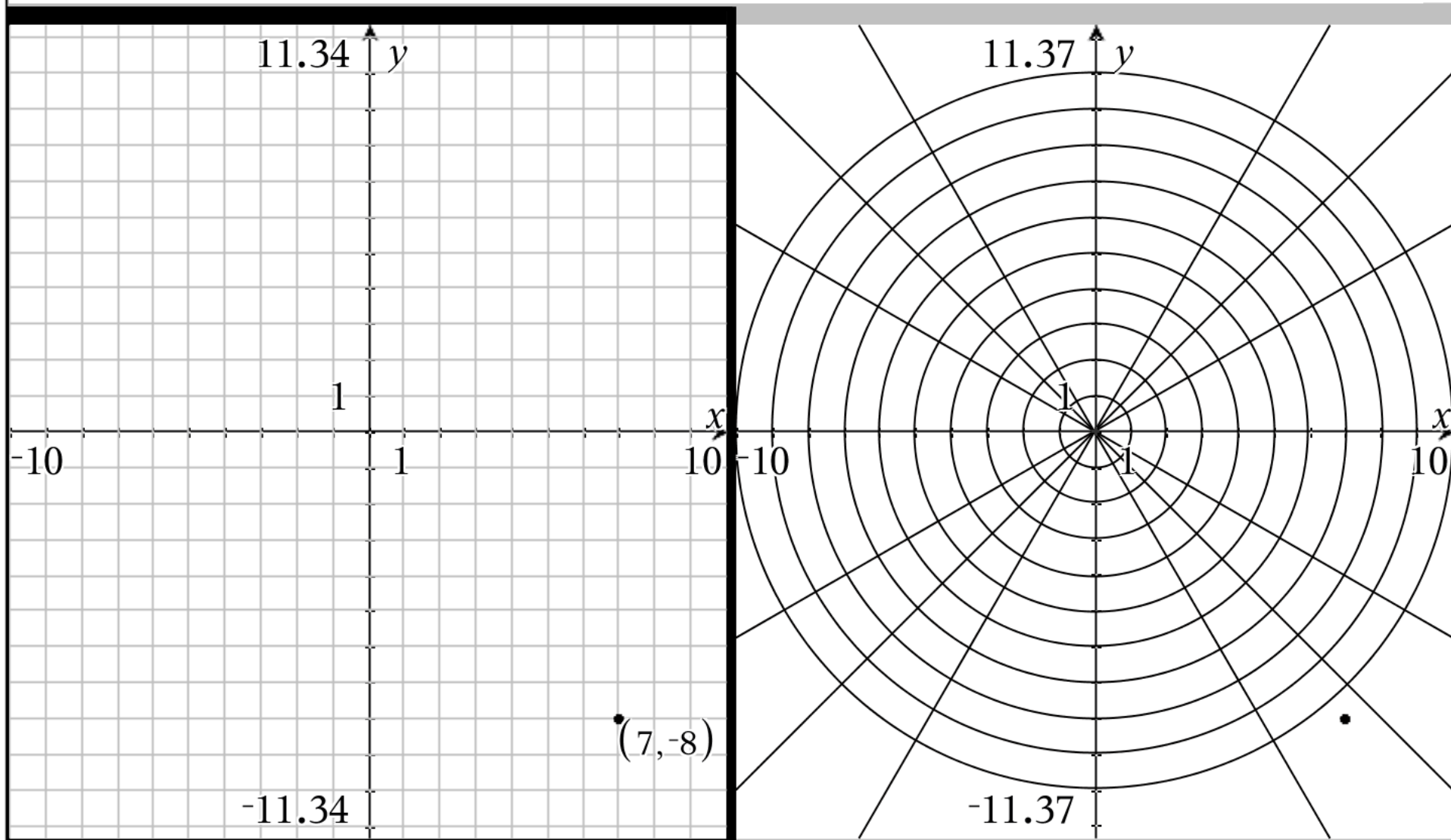
$$\left(\sqrt{113}, \tan^{-1}\left(\frac{-8}{7}\right)\right) = \left(\sqrt{113}, 360 + \tan^{-1}\left(\frac{-8}{7}\right)\right) = \left(\sqrt{113}, 360 - \tan^{-1}\left(\frac{8}{7}\right)\right)$$

Approximate

$$(10.6301, -48.8141^\circ) = (10.6301, 311.186^\circ)$$

Where is $(7, -8)$?

$$(\sqrt{113}, -48.8141^\circ) \quad (\sqrt{113}, 311.186^\circ)$$



Question

What are the polar coordinates related to $(-6, -2)$?

Answer



Exact

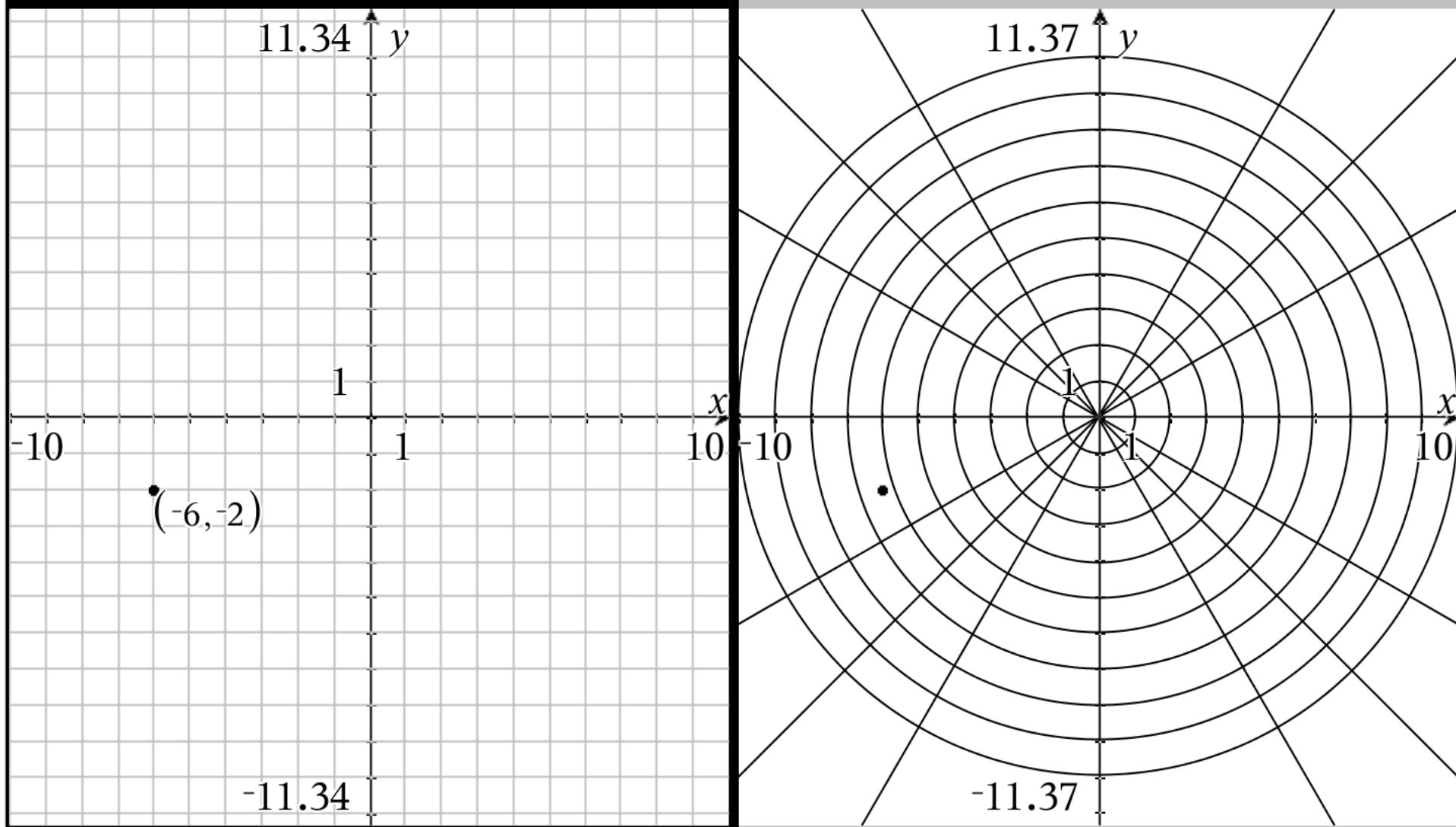
$$\left(\sqrt{40}, 180 + \tan^{-1}\left(\frac{1}{3}\right)\right) = \left(2\sqrt{10}, 180 + \tan^{-1}\left(\frac{1}{3}\right)\right)$$

Approximate

$$(6.32456, 18.4349^\circ) = (6.32456, 198.435^\circ)$$

Where is $(-6, -2)$?

$$(2\sqrt{10}, 198.435^\circ)$$



Question

What are the polar coordinates related to $(-3, 0)$?

NOTE ON AXES

DON'T WORK HARD

WORK SMART!

Answer



Exact

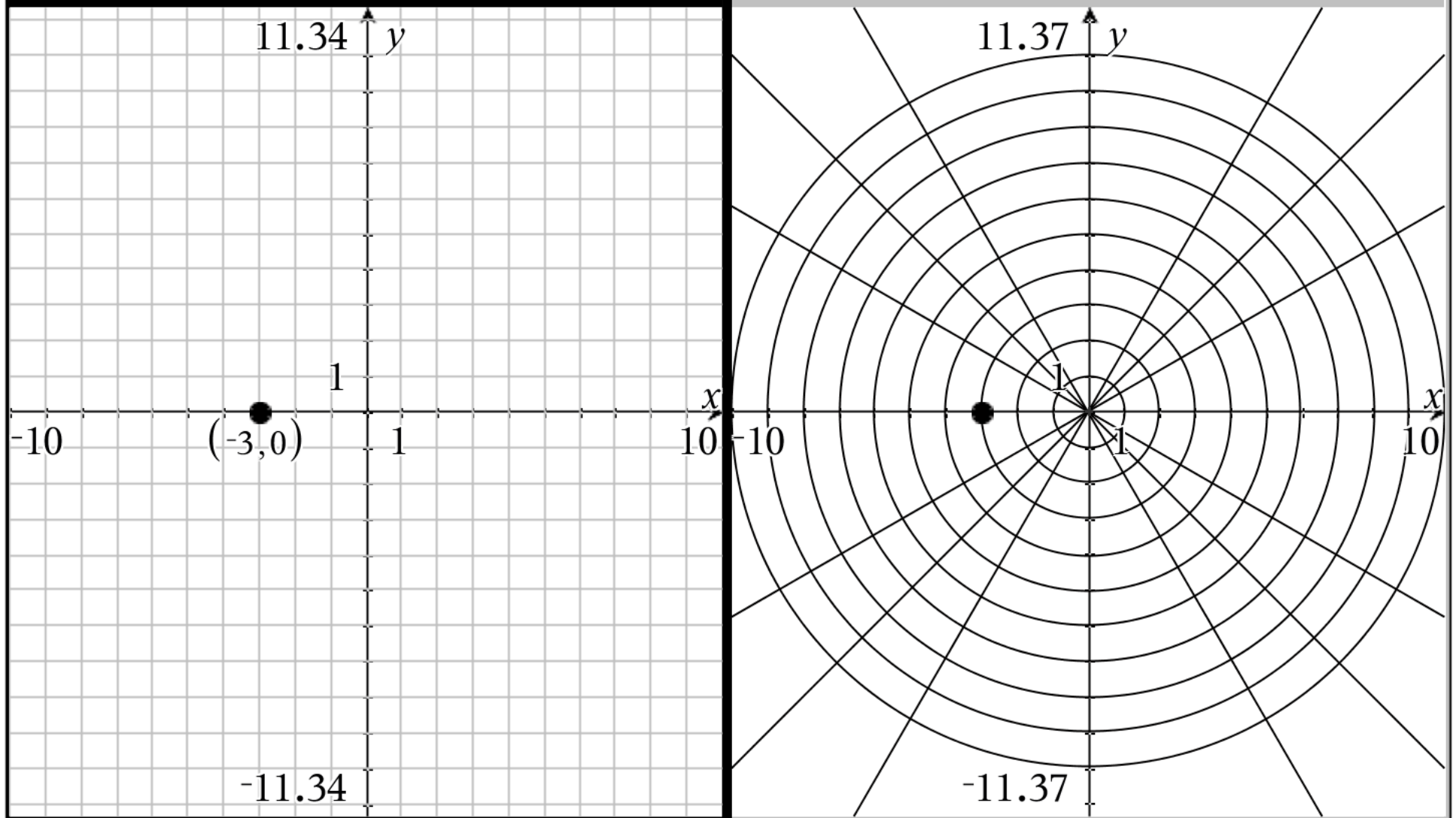
$$(\sqrt{9}, 180 + \tan^{-1}(0)) = (3, 180^\circ)$$

Approximate (not really necessary)

$$(3., 180.^\circ)$$

Where is $(-3, 0)$?

$(3, 180.^\circ)$



Question

What are the polar coordinates related to $(0, -8)$?

NOTE ON AXES

DON'T WORK HARD

WORK SMART!

Answer



Exact

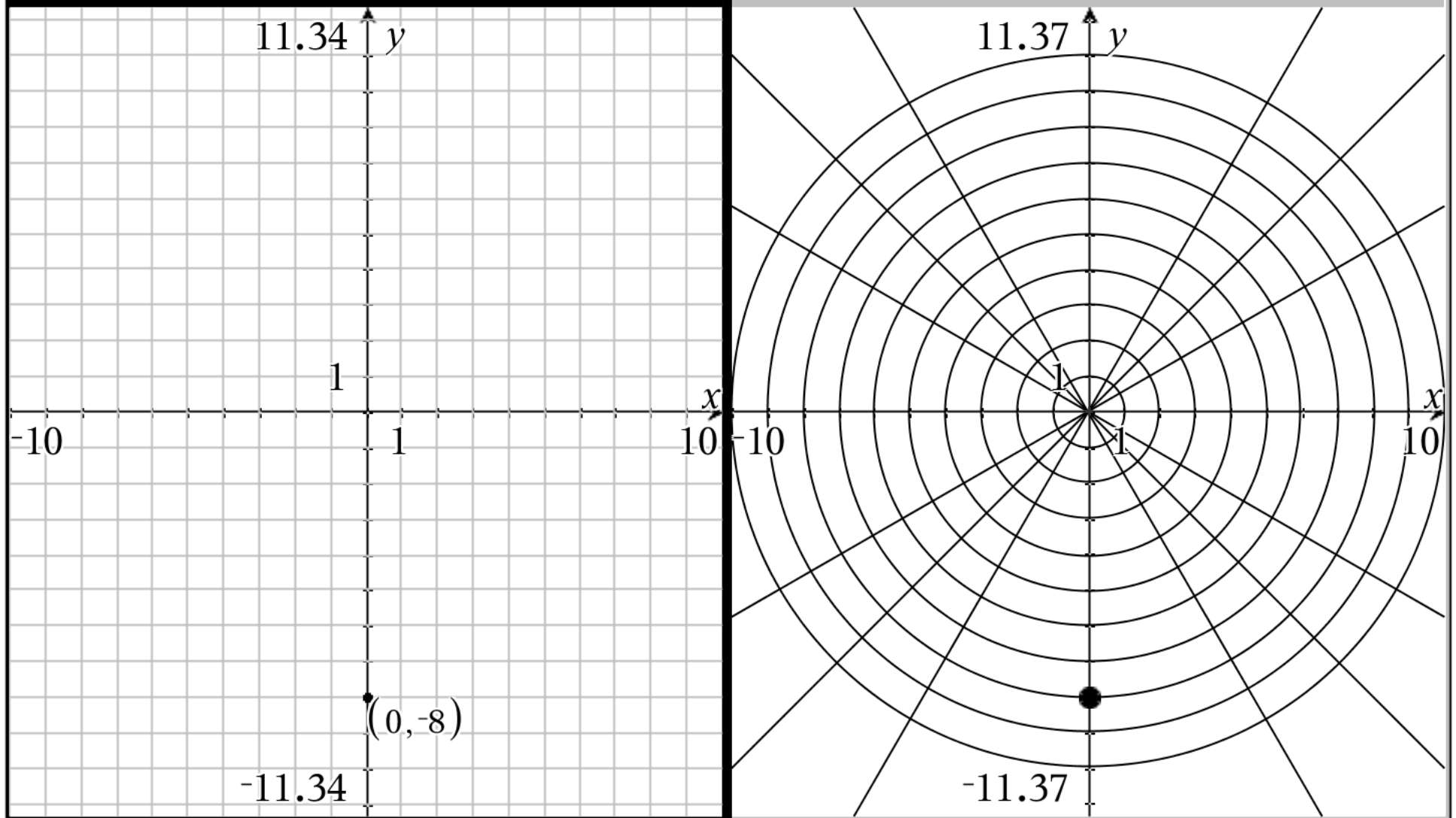
$$(\sqrt{64}, 180 + \tan^{-1}(\text{undef})) = (8, 270^\circ)$$

Approximate (not really necessary)

$$(8., 270^\circ)$$

Where is $(0, -8)$?

$(8, 270^\circ)$



Question

What are the polar coordinates related to $(5,7)$?

Answer



Exact

$$\left(\sqrt{74}, \tan^{-1}\left(\frac{7}{5}\right)\right)$$

Approximate

$$(8.60233, 54.4623^\circ)$$

Question

What are the polar coordinates related to $(-3, 6)$?

Answer



Exact

$$(\sqrt{45}, 180 + \tan^{-1}(-2)) = (3\sqrt{5}, 180 + \tan^{-1}(-2)) = (3\sqrt{5}, 180 - \tan^{-1}(2))$$

Approximate

$$(6.7082, 116.565^\circ)$$

Where is $(-3,6)$?

$(3\sqrt{5}, 116.565^\circ)$

