

Question

What are the related rectangular coordinates to $(4, \frac{-5 \cdot \pi}{6})$?

Answer

Exact and Unsimplified

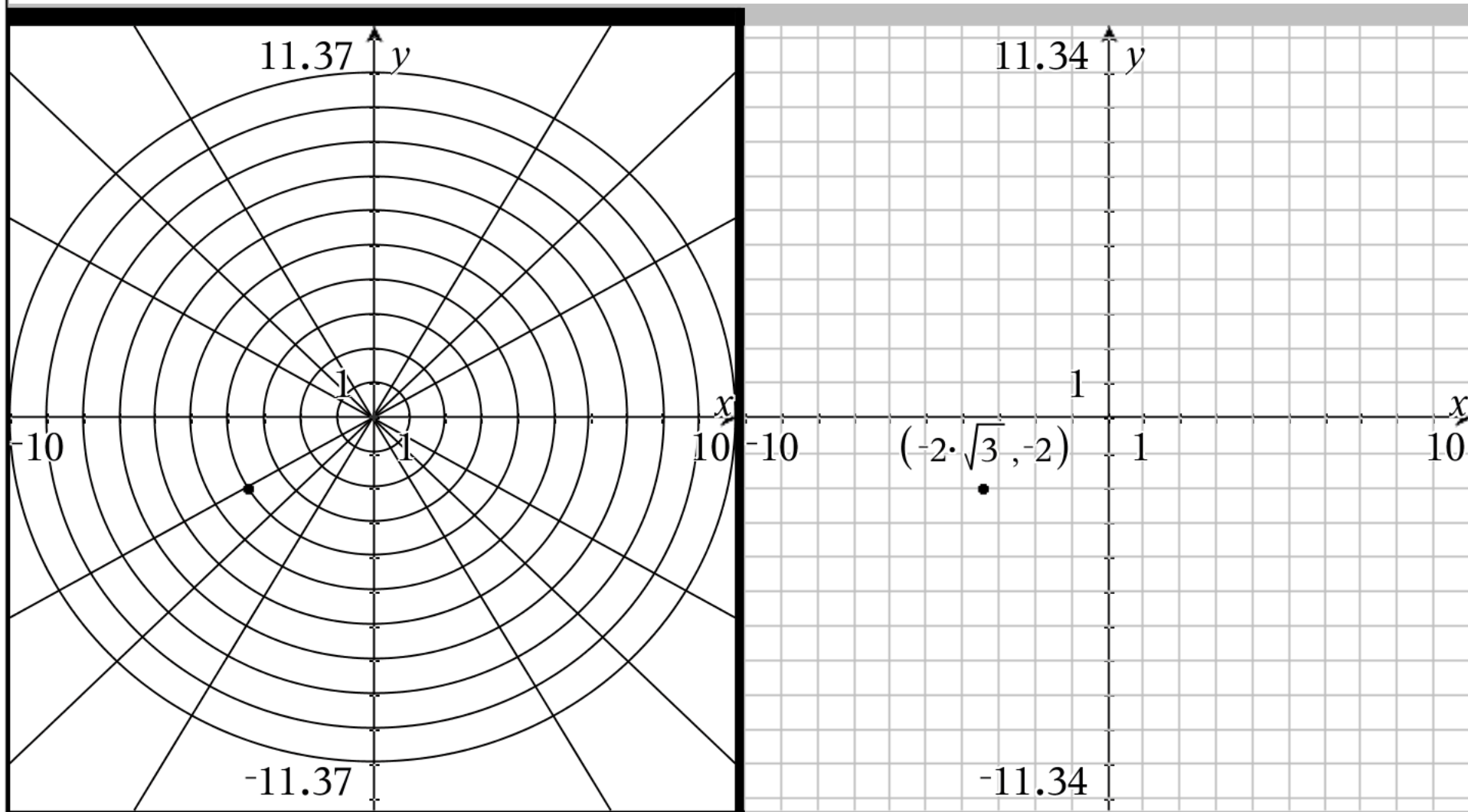
$$(4 \cos(\frac{-5 \cdot \pi}{6}), 4 \sin(\frac{-5 \cdot \pi}{6}))$$

Exact and simplified Approximate

$$(-2 \cdot \sqrt{3}, -2) \quad (-3.4641, -2.)$$

Where is $(4, \frac{-5 \cdot \pi}{6})$?

$(-3.4641, -2.)$



Question

What are the related rectangular coordinates to $(3, 315^\circ)$?

Answer



Exact and Unsimplified

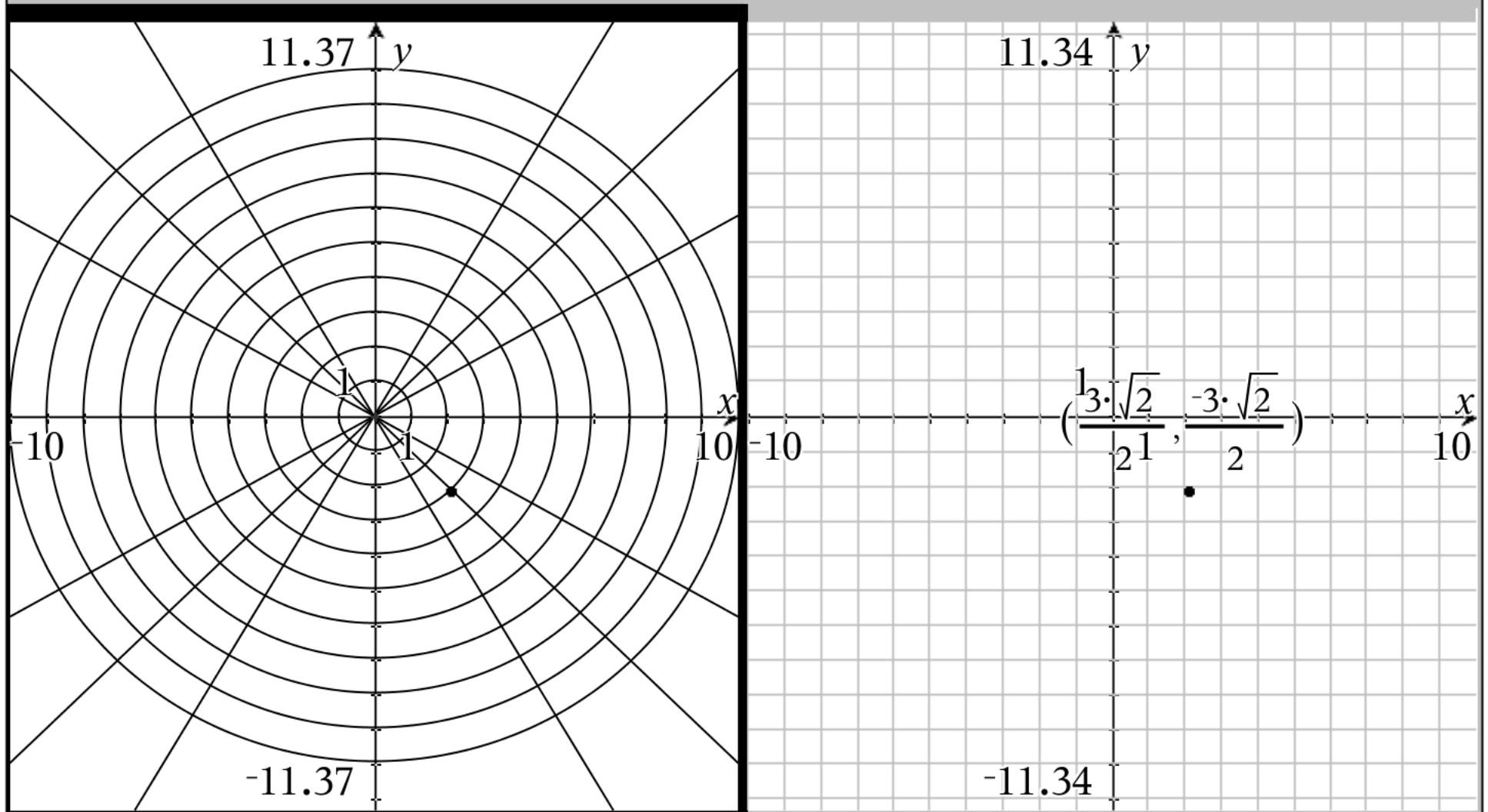
$(3 \cos(315^\circ), 3 \sin(315^\circ))$

Exact and simplified Approximate

$(x_2 \rightarrow \frac{3 \cdot \sqrt{2}}{2}, \frac{-3 \cdot \sqrt{2}}{2})$ $(2.12132, -2.12132)$

Where is $(3, 315^\circ)$?

$(2.12132, -2.12132)$



Question

What are the related rectangular coordinates to $(6, -170^\circ)$?

Answer



Exact

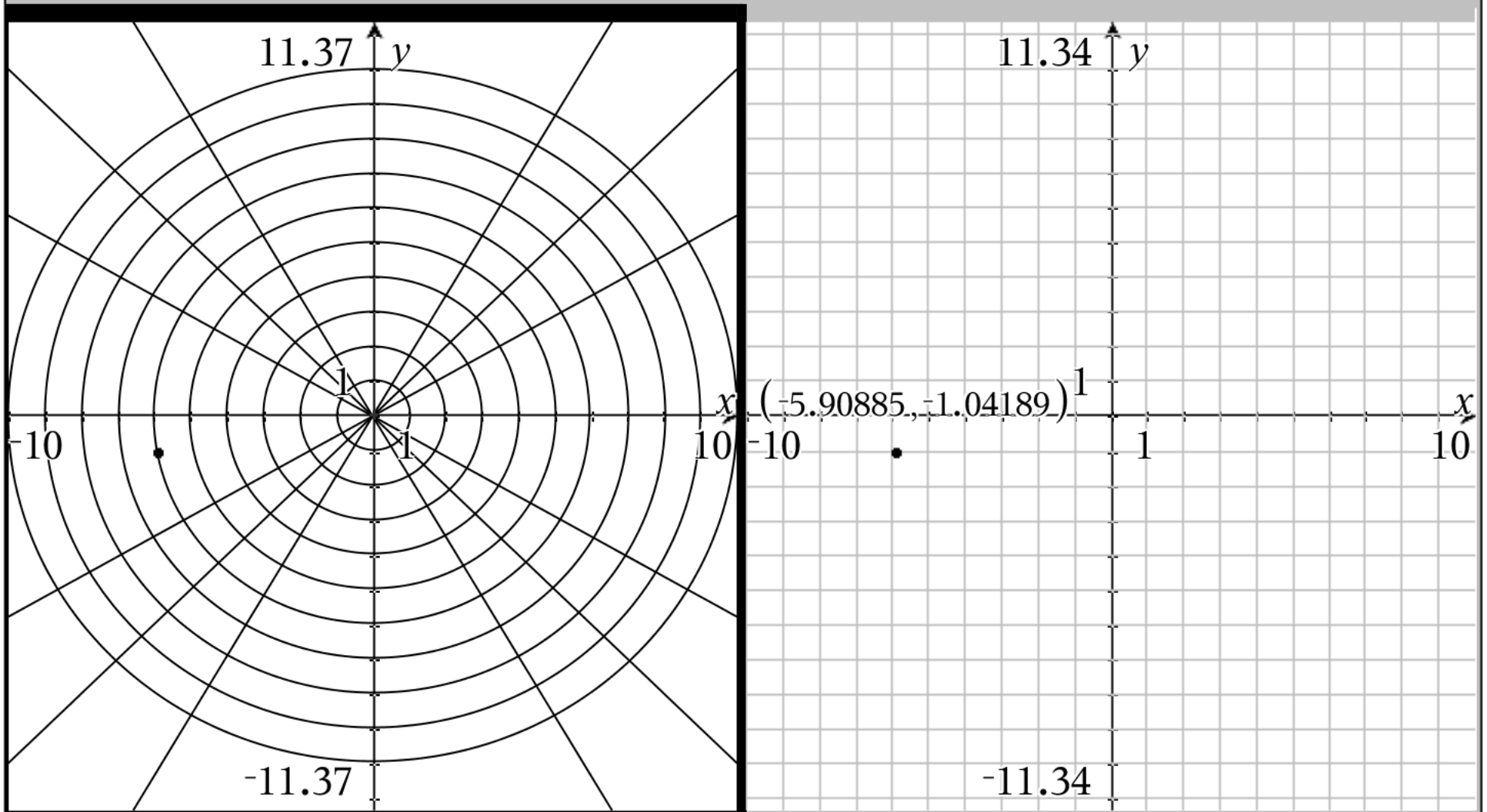
$(6\cos(-170), 6\sin(-170))$

Approximate

$(-5.90885, -1.04189)$

Where is $(6, -170^\circ)$?

$(-5.90885, -1.04189)$



Question

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

Answer



Exact

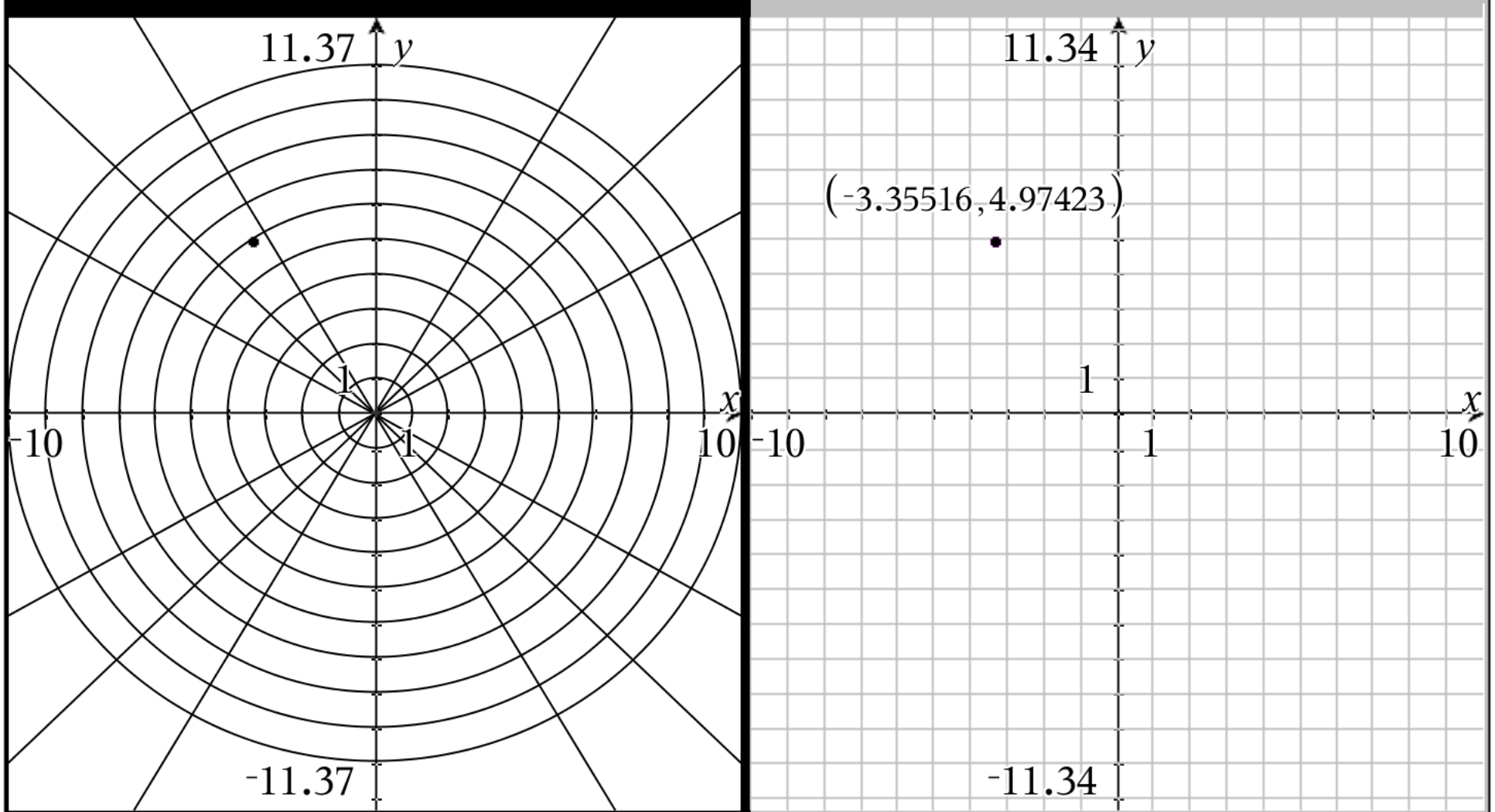
$(6\cos(124), 6\sin(124))$

Approximate

$(-3.35516, 4.97423)$

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

$(-3.35516, 4.97423)$



Question

What are the related rectangular coordinates to $(5, \frac{9 \cdot \pi}{7})$?

Answer



Exact

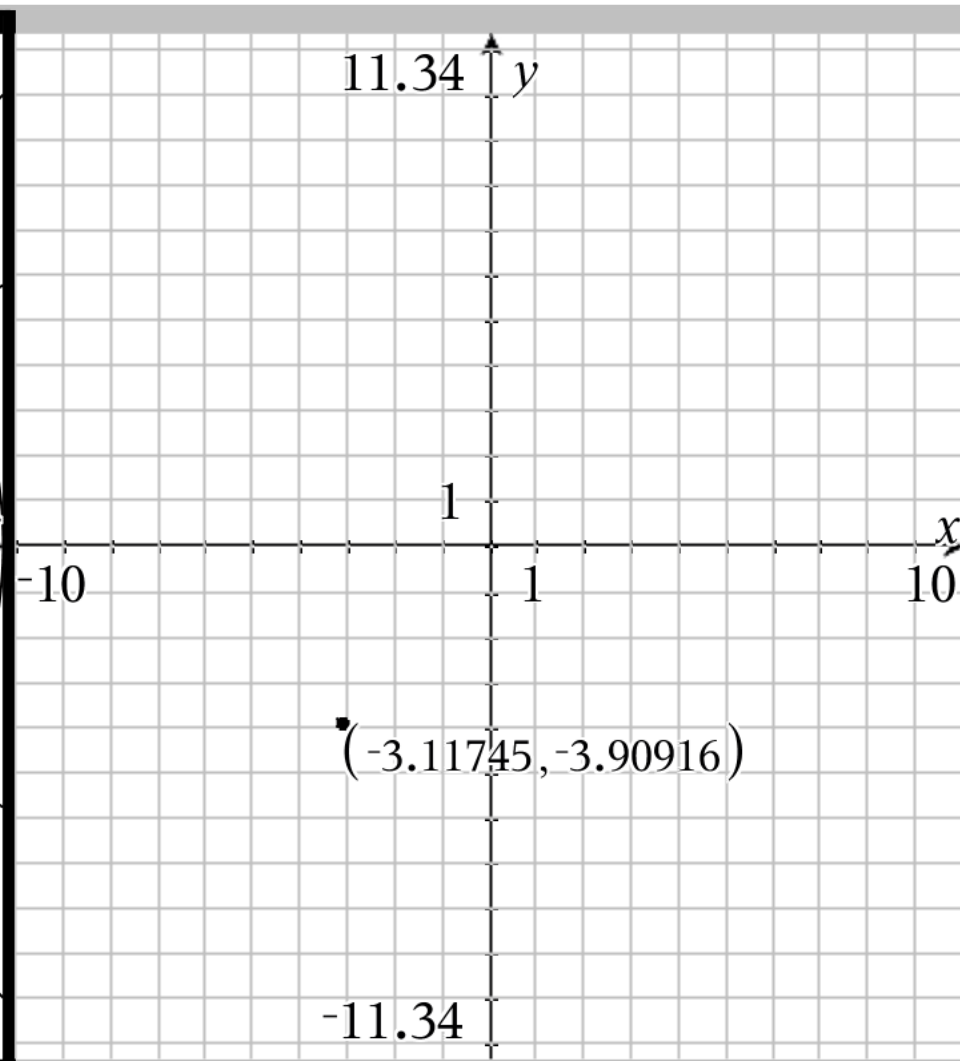
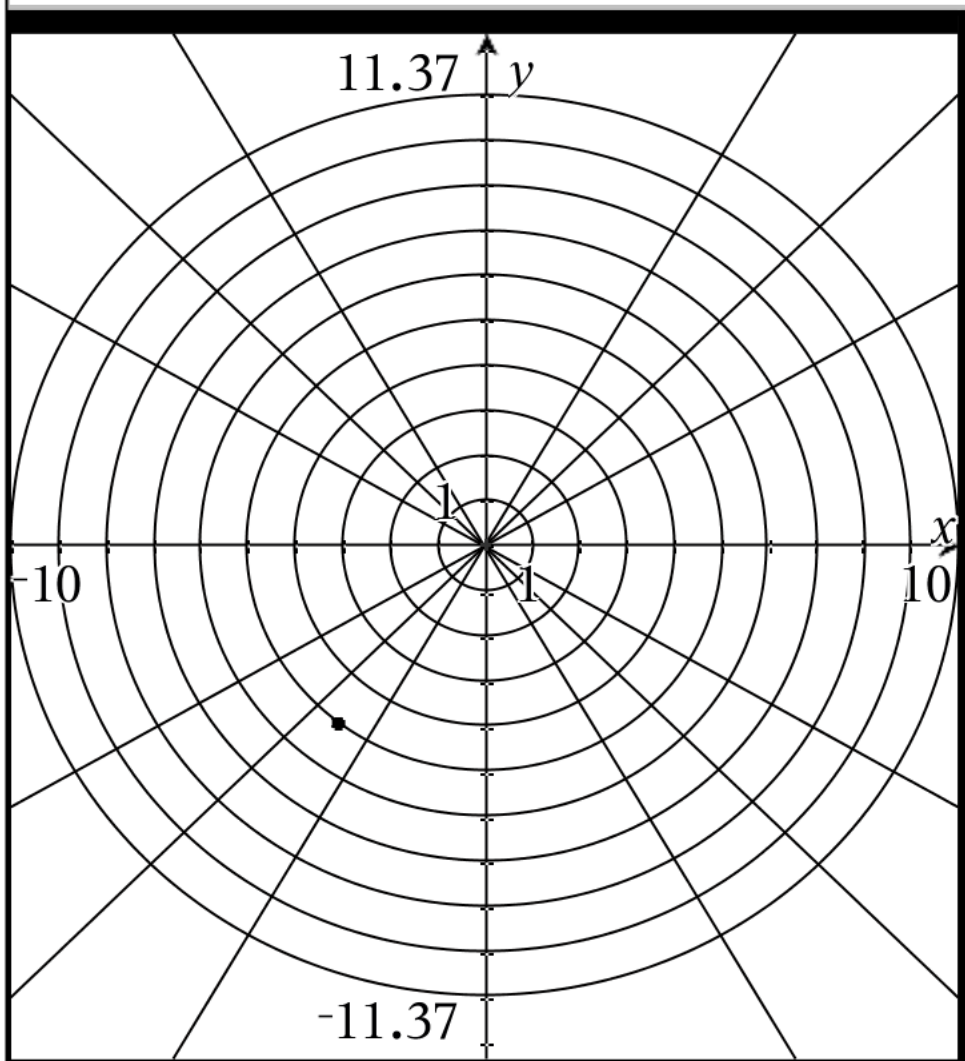
$$(5 \cos(\frac{9 \cdot \pi}{7}), 5 \sin(\frac{9 \cdot \pi}{7}))$$

Approximate

$$(-3.11745, -3.90916)$$

Where is $(5, \frac{9 \cdot \pi}{7})$? $(5, 231.429^\circ)$

$(-3.11745, -3.90916)$



Question

What are the polar coordinates related to $(-5, 4)$?

Answer



Exact

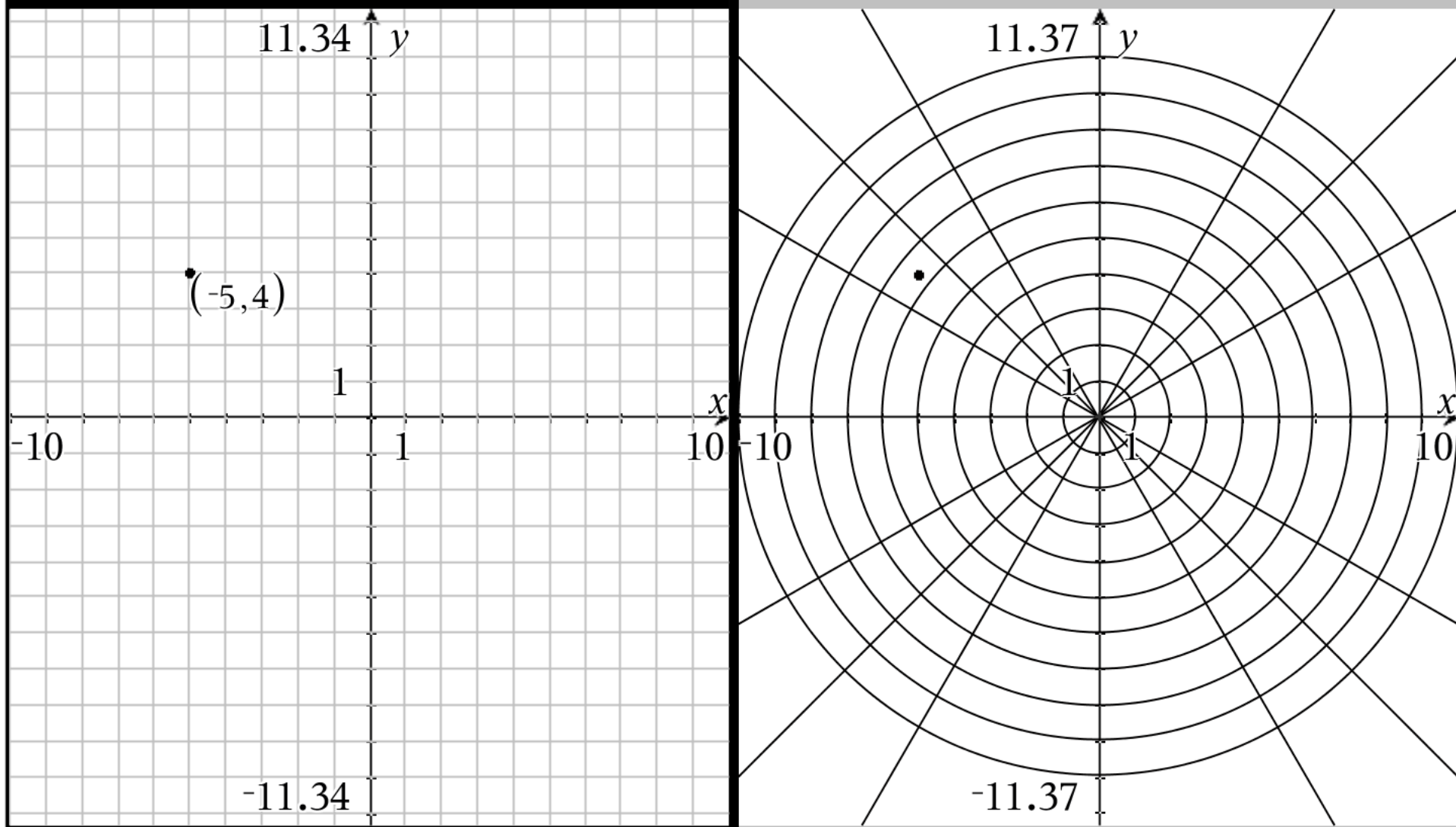
$$\left(\sqrt{41}, \tan^{-1}\left(\frac{-4}{5}\right)\right) = \left(\sqrt{41}, 180 + \tan^{-1}\left(\frac{-4}{5}\right)\right) = \left(\sqrt{41}, 180 - \tan^{-1}\left(\frac{4}{5}\right)\right)$$

Approximate

$$(6.40312, 141.34^\circ)$$

Where is $(-5, 4)$?

$(\sqrt{41}, -38.6598^\circ)$ $(\sqrt{41}, 141.34^\circ)$



Question

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

Answer



Exact

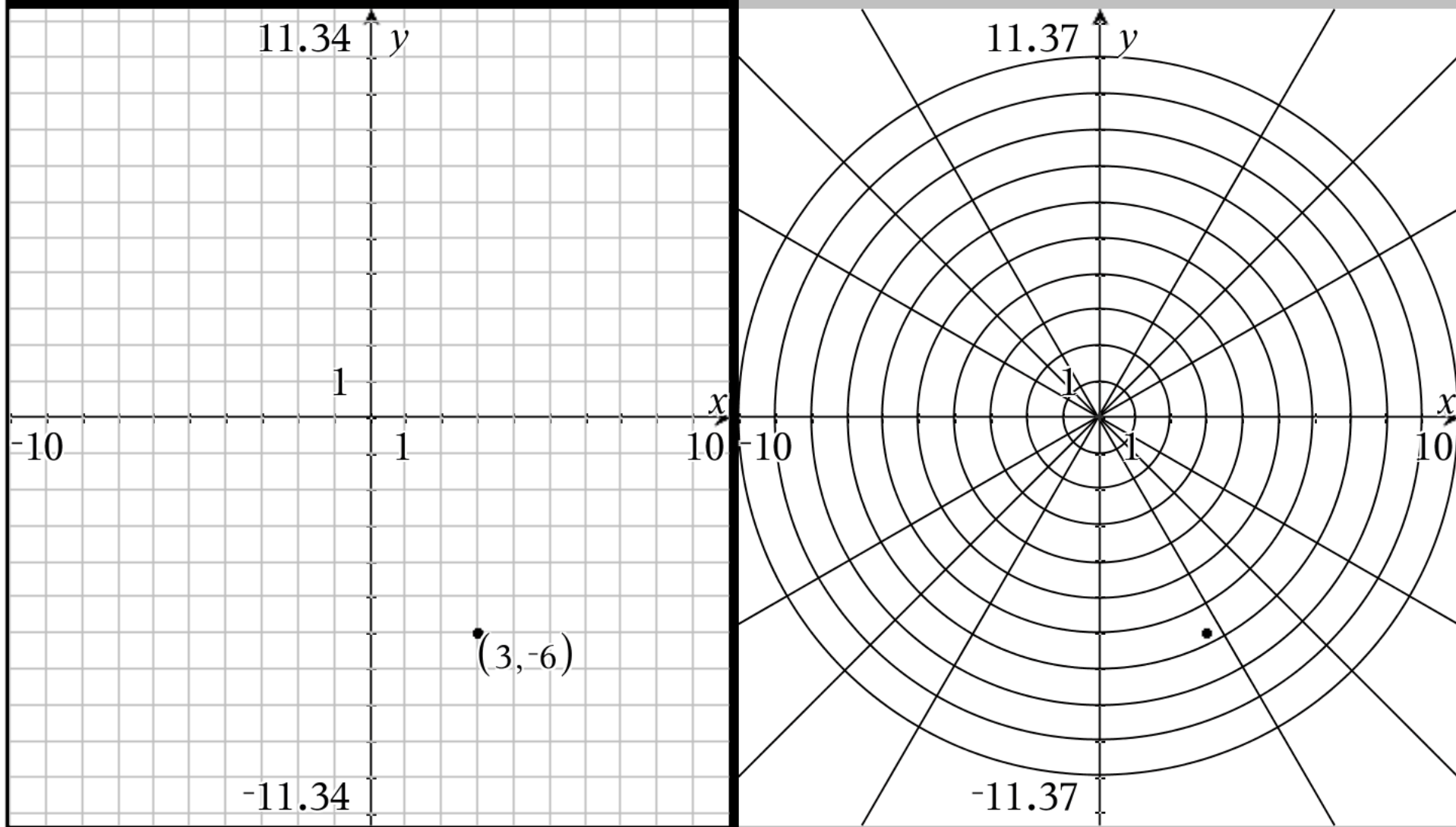
$$(\sqrt{45}, 360 + \tan^{-1}(-2)) = (3 \cdot \sqrt{5}, 360 + \tan^{-1}(-2))$$

Approximate

$$(6.7082, -63.4349^\circ) = (6.7082, 296.565^\circ)$$

Where is $(3, -6)$?

$$(3\sqrt{5}, 296.565^\circ)$$



Question

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

NOTE ON AXES

DON'T WORK HARD

WORK SMART!

Answer



Exact

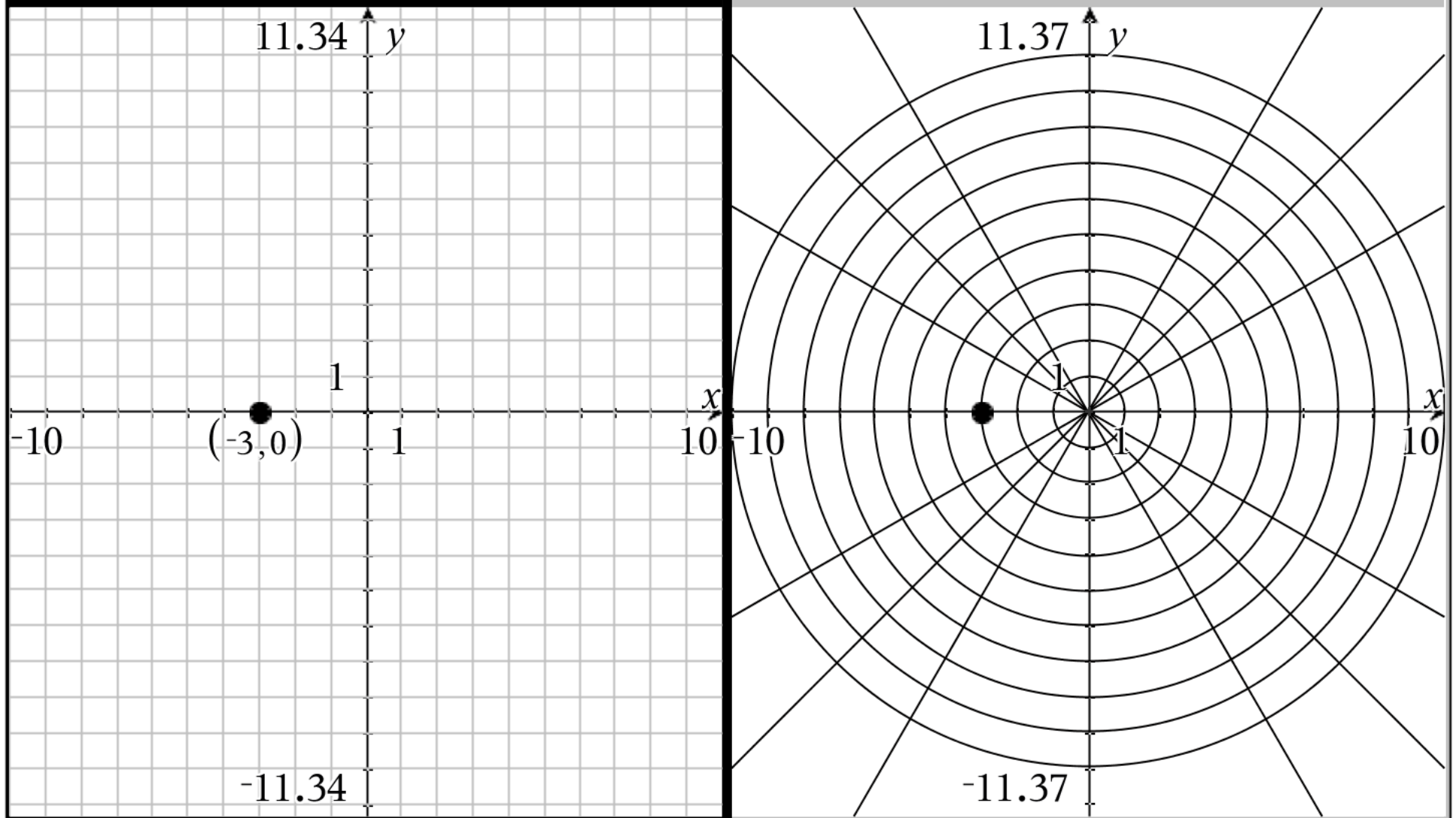
$$(\sqrt{9}, 180 + \tan^{-1}(0)) = (3, 180^\circ)$$

Approximate (not really necessary)

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

Where is $(-3, 0)$?

$(3, 180.^\circ)$



Question

What are the polar coordinates related to $(-3, -8)$?

Answer



Exact

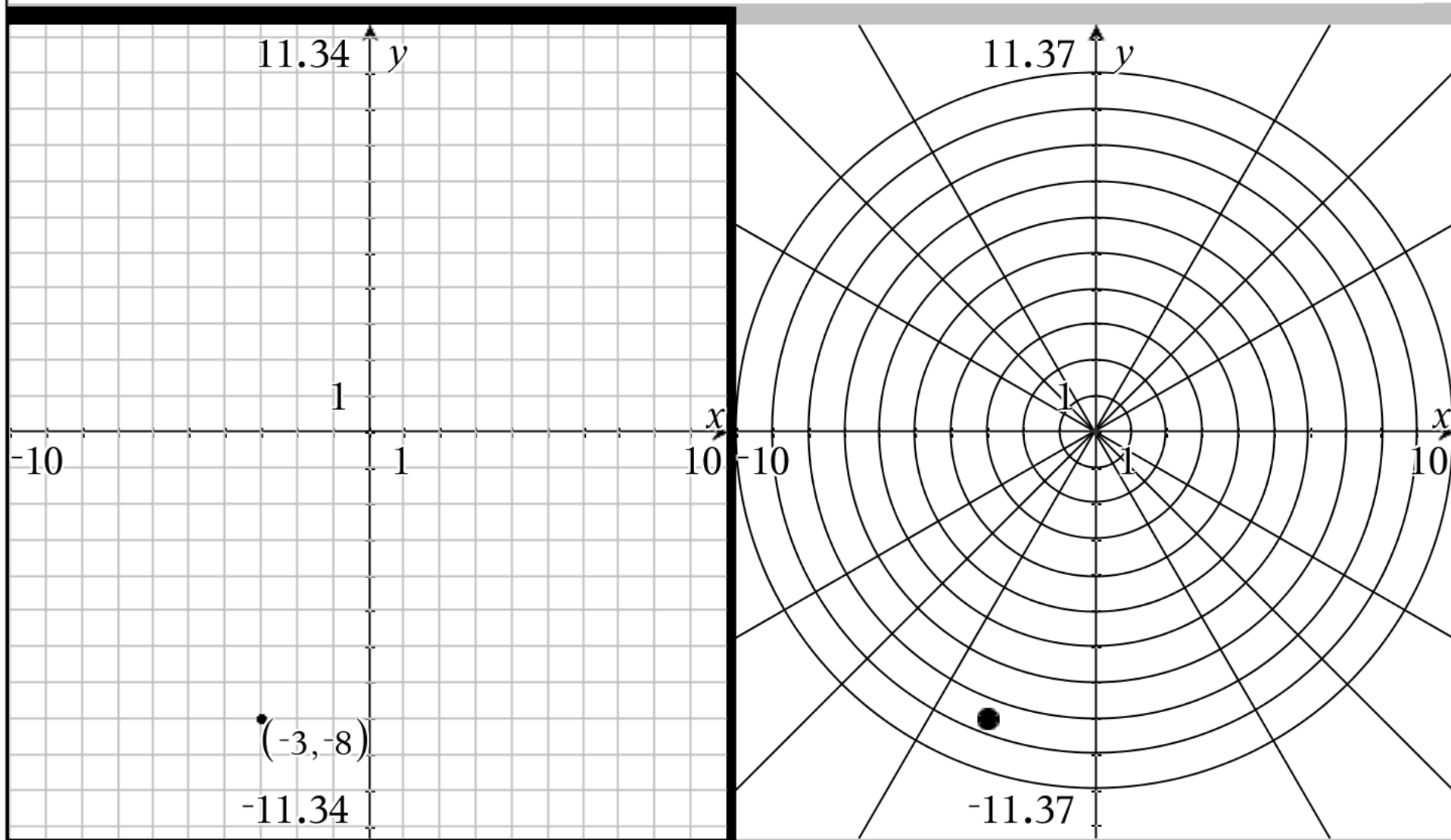
$$\left(\sqrt{73}, 180 + \tan^{-1}\left(\frac{8}{3}\right)\right)$$

Approximate

$$(8.544, 249.444^\circ)$$

Where is $(-3, -8)$?

$(\sqrt{73}, 249.444^\circ)$



Question

What are the polar coordinates related to $(4, 5)$?

Answer



Exact

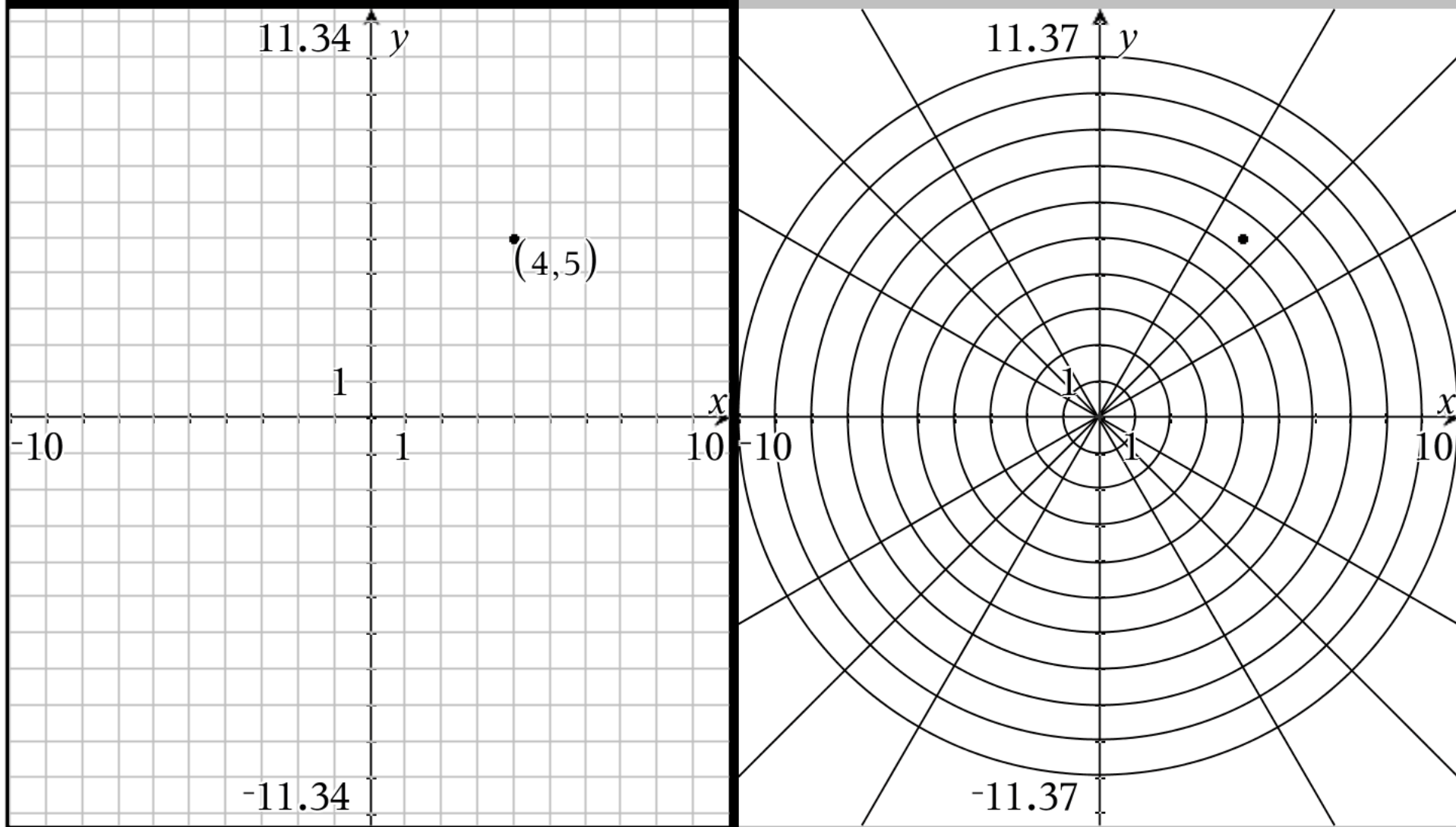
$$\left(\sqrt{41}, \tan^{-1}\left(\frac{5}{4}\right)\right)$$

Approximate

$$(6.40312, 51.3402^\circ)$$

Where is $(4,5)$?

$$(\sqrt{41}, 51.3402^\circ)$$



Question

What are the polar coordinates related to $(0, -4)$?

NOTE ON AXES

DON'T WORK HARD

WORK SMART!

Answer



Exact

$$(\sqrt{16}, 180 + \tan^{-1}(\text{undef})) = (4, 270^\circ)$$

Approximate (not really necessary)

$$(4., 270^\circ)$$

Where is $(0, -4)$?

$(4, 270^\circ)$

