

The Magic Trick Conversion From Rectangular to Polar Coordinates Pre Calculus Polar C...

Lesson 238 | Precalculus | Polar coordinates and graphs

https://www.youtube.com/watch?v=oK5_YgX07XM

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Convert the polar point $(18, 7\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

02

Convert the polar point $(18, 5\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

03

Convert the polar point $(28, 4\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

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04

Convert the polar point $(24, 6\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

05

Convert the polar point $(14, 2\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

06

Convert the polar point $(18, 6\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

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01

Convert the polar point $(18, 7\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

$x=r \cos \theta = -9\sqrt{3}$; $y=r \sin \theta = -9$. Equivalent point $(-18, 13\pi/6)$, because reversing r and adding π preserves the point.

02

Convert the polar point $(18, 5\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

$x=r \cos \theta = -9\sqrt{3}$; $y=r \sin \theta = 9$. Equivalent point $(-18, 11\pi/6)$, because reversing r and adding π preserves the point.

03

Convert the polar point $(28, 4\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

$x=r \cos \theta = -14$; $y=r \sin \theta = 14\sqrt{3}$. Equivalent point $(-28, 10\pi/6)$, because reversing r and adding π preserves the point.

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04

Convert the polar point $(24, 6\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

$x=r \cos \theta=-24$; $y=r \sin \theta=0$. Equivalent point $(-24, 12\pi/6)$, because reversing r and adding π preserves the point.

05

Convert the polar point $(14, 2\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

$x=r \cos \theta=7$; $y=r \sin \theta=7\cdot\sqrt{3}$. Equivalent point $(-14, 8\pi/6)$, because reversing r and adding π preserves the point.

06

Convert the polar point $(18, 6\pi/6)$ to rectangular coordinates. Give another equivalent polar representation with negative radius.

$x=r \cos \theta=-18$; $y=r \sin \theta=0$. Equivalent point $(-18, 12\pi/6)$, because reversing r and adding π preserves the point.