






# Polar - Rectangular Conversions Menu ( P-R )







|   |  |
|---|--|
|    | Stores or calculates the X-axis rectangular coordinate.<br><b><math>X\text{-coord} = R \cdot \cos(\phi)</math></b>           |
|    | Stores or calculates the Y-axis rectangular coordinate.<br><b><math>Y\text{-coord} = R \cdot \sin(\phi)</math></b>           |
|    | Stores or calculates the Radius polar coordinate.<br><b><math>R = \sqrt{(X\text{-coord}^2 + Y\text{-coord}^2)}</math></b>    |
|  | Stores or calculates the Angle polar coordinate.<br><b><math>\phi = \text{ATan2}(Y\text{-coord} / X\text{-coord})</math></b> |
|  | Get back to previously displayed menu.   |

Note: All the calculations are performed considering the currently selected angle mode for the the “ $\phi$ ” value.

## Example:

Convert the rectangular coordinates (10, 15) to polar coordinates:

Solution: Follow the next sequence:

| Keystrokes   | Description   |
|--|---|
| 10  | Stores the X-axis coordinate.<br><b>X-coord = 10.00</b>   |
| 15  | Stores the Y-axis coordinate.<br><b>Y-coord = 15.00</b>   |
|     | Calculates the Radius polar coordinate.<br><b>R = 18.03</b>                                       |
|     | Calculates the Angular polar coordinate.<br><b>∠ = 56.31</b> (DEG mode) or <b>0.98</b> (RAD mode) |