COMPLEX NUMBER CONVERSION CHART

Rectangular Form (x + jy) to Polar Form (r â^ Î¸)

Magnitude (r)

$$r = \sqrt{(x^2 + y^2)}$$

Phase Angle (Î¸)

$$\theta = \tan^{-1}(y/x)$$

1 + j0	1.000	0	1 â^ 0
1 + j1	1.414	45	1.414 â^ 45
0 + j1	1.000	90	1 â^ 90
-1 + j1	1.414	135	1.414 â^ 135
-1 + j0	1.000	180	1 â^ 180
-1 - j1	1.414	225	1.414 â^ 225
0 - j1	1.000	270	1 â^ 270
1 - j1	1.414	315	1.414 â^ 315

3 + j4	5.000	53.13	5 âˆ 53.13
5 + j12	13.000	67.38	13 âˆ 67.38
8 + j15	17.000	61.93	17 âˆ 61.93

** Note: When calculating Î¸, ensure the correct quadrant is used based on the signs of x and y. For x < 0, add 180 to the result of tanâ»Â¹(y/x).*