

Applet Exploration: Complex Exponential

Start by opening the *Complex Exponential* applet.

The Unit Circle

1. Set $a = 0$ and $b = 1$. As you change t notice that e^{ibt} always lies on the unit circle. What happens if you change the value of b leaving $a = 0$? Explain this in terms of sin and cos.
2. When you increase a from 0 what happens to the circle? Explain this by expanding $e^{(a+bi)t}$.

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