**Precalculus BC Polar Graphs** Name:

**Limaçons: **

1. What is the maximum value of *r*? Minimum?
2. Consider 4 cases and sketch:

 a < b a = b b < a < 2b a ≥ 2b

1. What happens if we replace cos with sin?
2. What is the minimum domain needed to complete the limaçon?
3. On which axes does the main curve occur? Consider both sin and cos.
4. How do the intercepts relate to *a* and *b*?
5. What if *a* or *b* is negative?
6. What symmetries do you see? (There is a new one here).
7. What does the *k* do:?
8. What is a limaçon (like what might create it as a path)?