

6.5C HW KEY

Thursday, March 12, 2015 12:42 PM

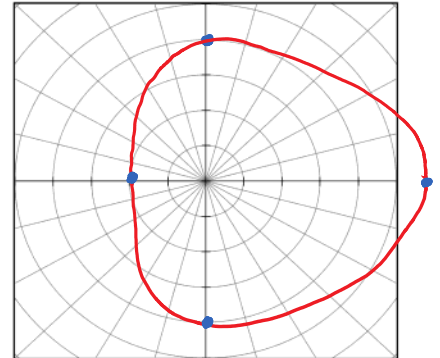
A series of horizontal blue lines for writing, with a vertical red margin line on the left side.

Determine the equation and then draw a graph the equation on the polar graph.

- 1) Limaçon reflexive about (lying along) the positive x-axis with x-intercepts 6 and -2, y-intercepts of +/- 4, and no inner loop.

$$\underline{r = 4 + 2\cos\theta}$$

$$a > b$$



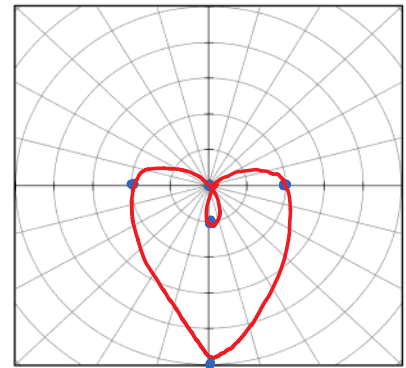
- 2) Limaçon reflexive about the negative y-axis with x-intercepts +/- 2, y-intercepts at -1 and -5, with an inner loop.

$$\underline{r = 2 - 3\sin\theta}$$

$$a < b$$

$$b = -3$$

$$a = 2$$



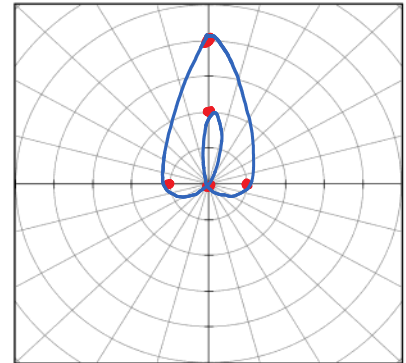
- 3) Limaçon lying along the positive y-axis with x-intercepts +/- 1, y-intercepts at 2 and 4, with an inner loop.

$$\underline{r = 1 + 3\sin\theta}$$

$$a = 1$$

$$a < b$$

$$b = 3$$



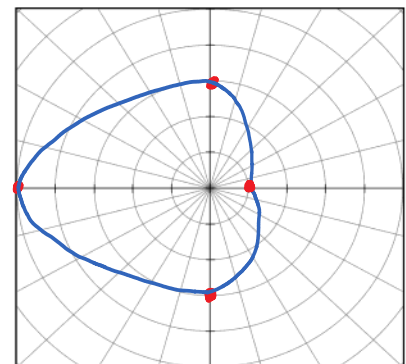
- 4) Limaçon lying along the negative x-axis, with x-intercepts -10 and 2, y-intercepts +/- 6, with no inner loop.

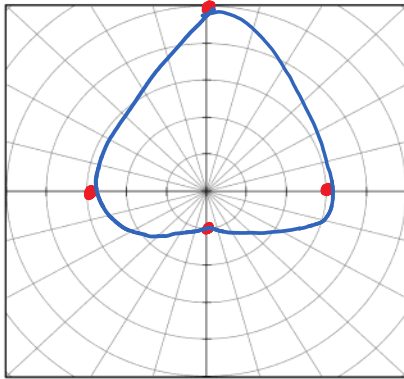
$$\underline{r = 6 - 4\cos\theta}$$

cos & -b

$$a = 6 \Rightarrow b = -4$$

$$a = 6$$





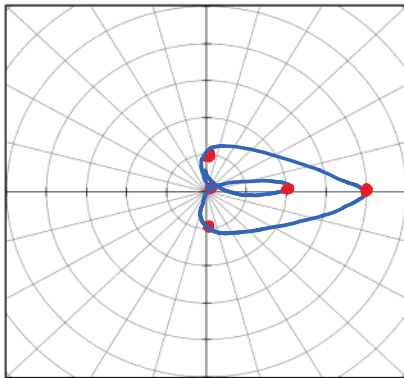
5. $r(\theta) = -3 + 2\sin\theta$

A) Name of curve Limaçon

B) x-intercepts ± 3

C) y-intercepts $-1, 5$

D) Symmetry y-axis



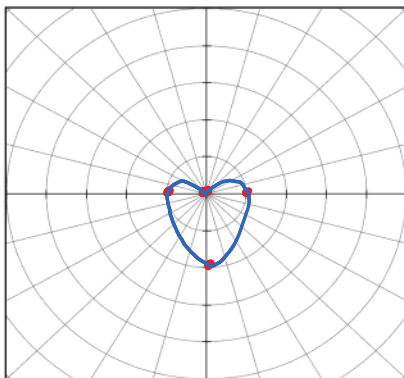
6. $r(\theta) = 1 + 3\cos\theta$

A) Name of curve Limaçon

B) x-intercepts $2, 4, 0$

C) y-intercepts $\pm 1, 0$

D) Symmetry x-axis



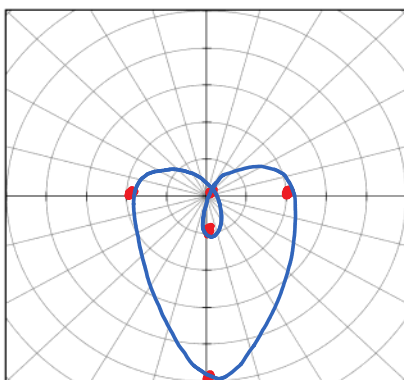
7. $r(\theta) = 1 - \sin\theta$

A) Name of curve cardioid

B) x-intercepts ± 1

C) y-intercepts $0, -2$

D) Symmetry y-axis



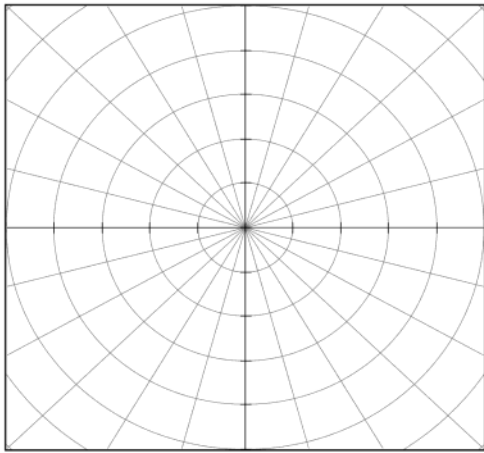
8. $r(\theta) = 2 - 3\sin\theta$

A) Name of curve Limaçon

B) x-intercepts $\pm 2, 0$

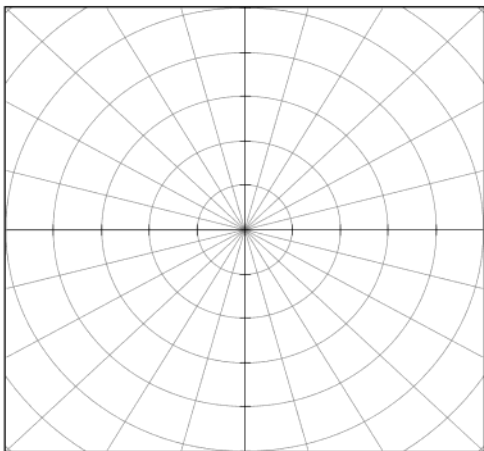
C) y-intercepts $0, -5, -1$

D) Symmetry y-axis



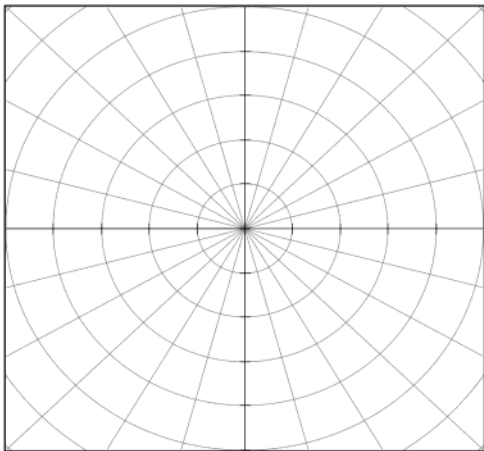
10. $r(\theta) = 3\sin 2\theta$

- A) Name of curve _____
- B) Number of Petals _____
- C) Angle of 1st petal _____
- D) Angle between petals _____
- E) Length of petals _____
- F) Symmetry _____



11. $r(\theta) = 2\sin \theta$

- A) Name of curve _____
- B) Number of Petals _____
- C) Angle of 1st petal _____
- D) Angle between petals _____
- E) Length of petals _____
- F) Symmetry _____



12. $r(\theta) = -2$

- A) Name of curve _____
- B) x-intercepts _____
- C) y-intercepts _____
- D) Symmetry _____