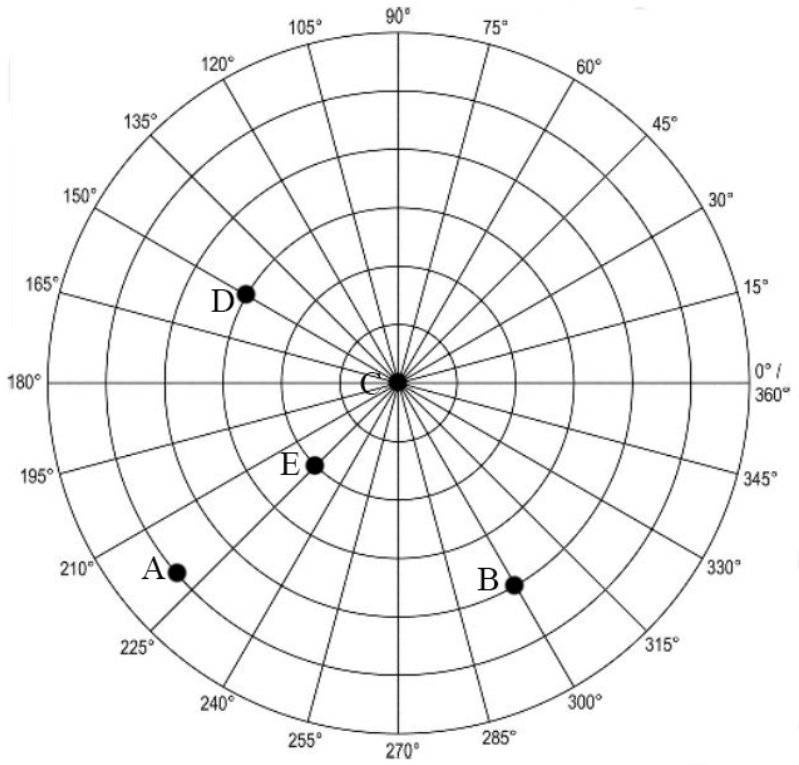
Pre-Calculus Homework #20 – Answer Key

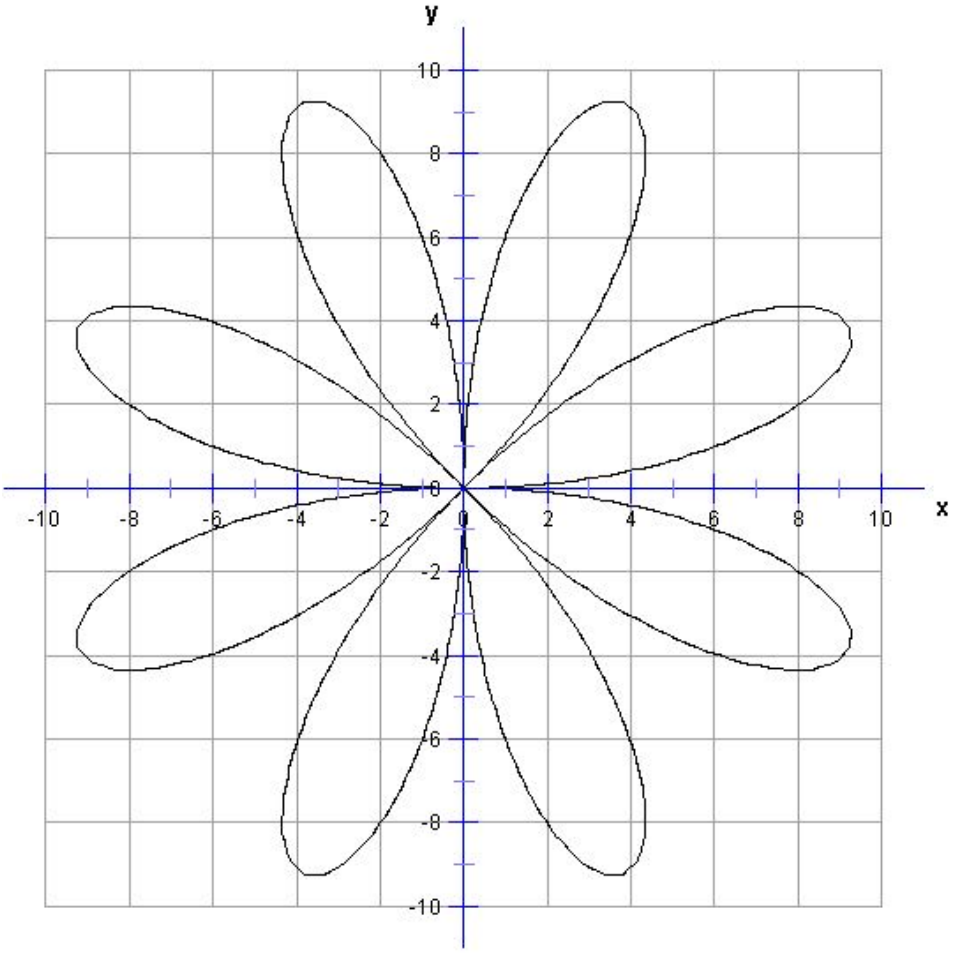
1)



2) $(5, 210^\circ)$ $(5, \frac{7\pi}{6})$

3) $(\frac{7}{2}, \frac{7\sqrt{3}}{2})$

4) $(x^2 + y^2)^{\frac{5}{2}} = 20xy(y^2 - x^2)$



5) $r = 10\sin 4\theta$

6) $\langle -31, 53 \rangle$

7) $-150\sqrt{221}$

8) $\left\langle 24 + 60\sqrt{10} - 90\sqrt{73}, -8 - 108\sqrt{10} + 162\sqrt{73} \right\rangle$

9) -68

10) $\left\langle \frac{-2\sqrt{29}}{29}, \frac{5\sqrt{29}}{29} \right\rangle$

11) $\left\langle \frac{52\sqrt{3665}}{3665}, \frac{-31\sqrt{3665}}{3665} \right\rangle$

12) $15.00, 306.87^\circ$

13) $56.3, 282.3^\circ$

14) $25.96, 37.99^\circ$ from vector u

15) $27.45, 35.49^\circ$ from vector u

16) $\langle .39673926722, 134.033116526 \rangle$ which gives you 134.03 nautical miles at a bearing of $N89.83^\circ E$

17) $\langle -939.489146425, 201.678773730 \rangle$ which gives you 960.89 miles at a bearing of 282.12°

18) 47.2°

19) $102.148684947i - 269.856382721j$ which gives you 288.54 pounds at a bearing of $S20.73^\circ E$

20) $-169.960486969i + 144.622895781j$ which gives you 223.16 mph at a bearing of 310.40°