MA154 SPRING 2000 EXAM 1 ANSWERS:

1. A 2. E 3. B 4. Amplitude = 3, Period = π, Phase Shift = $\pi/8$
5. Diameter = 52.89 m 6. Quadrants II, III, $\theta = 2.24, 4.04$ 7. a) $\theta_R = \pi/4$, $\sin\left(-\frac{3\pi}{4}\right) = -\frac{1}{\sqrt{2}}$ b) $\theta_R = \pi/6$, $\cot\left(\frac{11\pi}{6}\right) = -\sqrt{3}$ 8. a) $\sin\theta = 13/194$
b) $\tan\theta = -\sqrt{24}$ 9. Original pole height $\approx$ 78.2 ft. 10. Total Length $\approx$ 48 ft.

MA154 SPRING 2000 EXAM 2 ANSWERS:

1. D 2. E 3. C 4. $\theta = \pi/6, 5\pi/6, \pi/2$ 5. $\sin(\alpha-\beta) = -\frac{304}{425}$

6. $\cos 105^\circ = \frac{\sqrt{2}-\sqrt{6}}{4}$ 7. a) $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right) = \frac{5\pi}{6}$, b) $\tan\left(\arcsin\frac{2}{3}\right) = \frac{2}{\sqrt{5}}$

8. Distance from A = 2.28 miles, Distance from B = 2.91 miles
9. Length = 6.95 miles

MA 154 EXAM 3 SPRING 2000 ANSWERS

1. D 2. A 3. C 4. Magnitude = 8, $\theta = \frac{5\pi}{6}$ or 150^0

5. Horizontal: y = 0, Vertical: x = 2, x = – 1, x-intercept: (4,0), y-intercept: (0,2)

6. $y = -\frac{1}{9}x^2 - \frac{2}{3}x + 4$ 7. 149^0 8. 3600.0 ft-lbs 9. 365.9 mi/hr