

## Math 150 Week in Review 9 Answer Key

1.  $A = \cos^{-1}\left(-\frac{2}{7}\right) \approx 106.6015^\circ, B \approx 48.1897^\circ, C \approx 25.2088^\circ$
2. (a)  $\sqrt{5^2 + 3^2 - 2(5)(3)\cos 107^\circ}$  miles  $\approx 6.5400$  miles  
(b) S  $38.0190^\circ$  E
3.  $\cos u$
4.  $4 \tan \theta \sin \theta$
5. (a)  $\frac{-\sqrt{2} - \sqrt{6}}{4} = \frac{-1 - \sqrt{3}}{2\sqrt{2}}$   
(b)  $\frac{-\sqrt{2} - \sqrt{6}}{4} = \frac{-1 - \sqrt{3}}{2\sqrt{2}}$   
(c)  $\frac{1}{2}$
6.  $\sin 2x = -\frac{4\sqrt{5}}{9}; \cos 2x = \frac{1}{9}; \tan 2x = -4\sqrt{5}$
7.  $\frac{\sqrt{2 + \sqrt{3}}}{2}$
8.  $\sin \frac{x}{2} = \sqrt{\frac{1 + \frac{2}{\sqrt{29}}}{2}}; \cos \frac{x}{2} = -\sqrt{\frac{1 - \frac{2}{\sqrt{29}}}{2}}; \tan \frac{x}{2} = \frac{2 + \sqrt{29}}{-5}$
9.  $\frac{1}{\sqrt{2}}$
10.  $-\frac{1}{4} + \frac{1}{2\sqrt{2}}$
11. See Full Solutions for all parts.
12. Area =  $\sqrt{264} = 2\sqrt{66} \approx 16.2481$
13.  $4 \sin\left(x + \frac{4\pi}{3}\right)$