Vectors WS Answers

1. $\overrightarrow{AB} = \langle -3, -1 \rangle;\ \left\|\overrightarrow{AB}\right\| = \sqrt{10}$
2. $\overrightarrow{AB} = \langle 1, -3 \rangle;\ \left\|\overrightarrow{AB}\right\| = \sqrt{10}$
3. $\overrightarrow{AB} = \langle 11, 5 \rangle;\ \left\|\overrightarrow{AB}\right\| = \sqrt{146}$
4. $u = \langle -1, 4 \rangle$
5. $u = \langle 5, -6 \rangle$
6. $u = \langle 6, -3 \rangle$
7. $u = \langle -7, 7 \rangle$
8. $u = \langle -5, 13 \rangle$
9. $u = \langle -19, 27 \rangle$
10. $u = \langle \frac{-3}{5}, \frac{4}{5} \rangle$
11. $u = \langle \frac{\sqrt{26}}{26}, \frac{5\sqrt{26}}{26} \rangle$
12. $\theta = 291.8°$
13. $\theta = 246.8°$
14. $\theta = 341.57°$
15. $u = \langle -17.32, 10 \rangle$
16. $u = \langle 7.07, -7.07 \rangle$

1. a) direction: $\sim 71.57°\ South\ of\ West$
   b) 126.491 m/s
   c) 455,367.983 m or ~282.953 miles

2. a) 8 m/s *East*
   b) 2 m/s *West*
   c) 5.831 m/s

3. a) direction: $\sim 69.44°\ North\ of\ East$
   b) 85.44 m/s