Trigonometry and Related Rates

1. Make up a problem involving the inverse sine function. Solve.

2. Make up a problem involving the derivative of the inverse cosine function. Solve.

3. Make up a problem involving the derivative of the inverse tangent function.
4. Come up with a related rates problem involving the area of a circle. Solve.

5. Come up with a related rates problem involving a triangle. Solve.
6. Come up with a related rates problem using the physics equation $E = -\frac{Gm_1 m_2}{r}$ where $E$ is energy, $G$ is the gravity constant, $r$ is the distance between object 1 and object 2 and $m_1$ and $m_2$ the masses of object 1 and object 2 respectively. Solve.

7. Come up with a trigonometry word problem that uses the cosecant function. Solve.

8. Come up with a trigonometry word problem that involves a clock. Solve.