Each problem is worth 5 points. For full credit provide complete justification for your answers.

1. If $\theta$ is a second-quadrant angle for which $\sin \theta = \frac{2}{3}$, what are

\[
\cos \theta = -\frac{\sqrt{5}}{3}
\]
\[
\tan \theta = -\frac{2\sqrt{5}}{5}
\]
\[
\csc \theta = -\frac{3}{2}
\]
\[
\sec \theta = -\frac{3\sqrt{5}}{5}
\]
\[
\cot \theta = -\frac{\sqrt{5}}{2}
\]

2. Give an exact value for $\sin 60^\circ$.

\[
\sin 60^\circ = \frac{\sqrt{3}}{2}
\]

3. Give an exact value for $\cos 225^\circ$.

\[
\cos 225^\circ = -\frac{1}{\sqrt{2}}
\]