Name: _____ Group Members: _____

Exploration 4-4b: Trigonometric Equations

Date: _____

Objective: Solve equations in which trigonometric functions appear.

1. Solve: $2\cos(\theta - 17°) = 1$, $\theta \in [0°, 720°]$

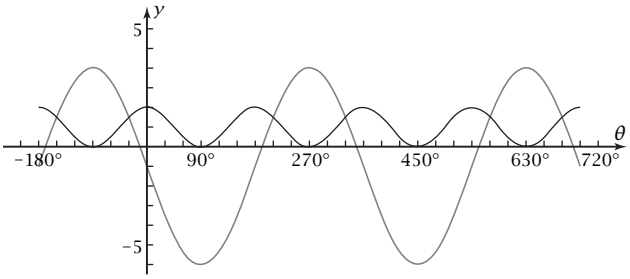
2. Solve: $\tan^2\theta - 2\tan\theta - 3 = 0$, $\theta \in [-360°, 360°]$

3. Solve: $-1 - 5\sin\theta = 2\cos^2\theta$, $\theta \in [-180°, 720°]$

4. The figure shows the graphs of

   $y_1 = -1 - 5\sin\theta$ $\quad$ $y_2 = 2\cos^2\theta$

   Show on the graph that all of your answers in Problem 3 are correct.



5. Explain how what you have been studying about transformation of trigonometric expressions allows you to solve trigonometric equations.