

APPENDIX B

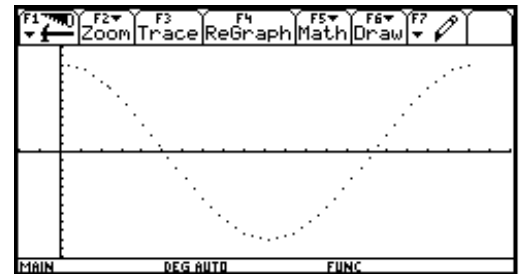
Teacher Information

This section provides answers to the student activities.

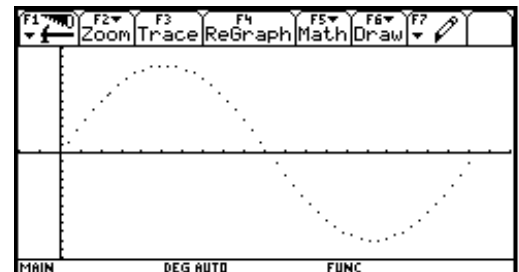
Activity 1 Exploring the Unit Circle

Answers to Instructions

13. The graph of the angle vs. the x -coordinate



14. The graph of the angle vs. the y -coordinate



Answers to Questions

1. The graph of $\sin(x)$ matches the scatter plot of the angle versus the y -coordinate. The graph of $\cos(x)$ is a horizontal shift of the scatter plot.
2. The graph of $\cos(x)$ matches the scatter plot of the angle versus the x -coordinate. The graph of $\sin(x)$ is a horizontal shift of the scatter plot.
3. The next value at which the graphs repeat is 360. This is the number of degrees in one rotation of the unit circle.
4. The amplitude of both graphs is 1. It is the radius of the unit circle.
5. The amplitude would be 1.5; therefore, the graphs would have a vertical stretch. The new equations would be $f_1(x) = 1.5 \sin(x)$ and $f_2(x) = 1.5 \cos(x)$.
6. The angle and the x -coordinate equation would be $f_2(x) = r \cos(x)$. The angle and the y -coordinate equation would be $f_1(x) = r \sin(x)$.