Write an equation for each of the following. Graph each equation.

26. a sine function with amplitude 3, period $120°$, translated 3 units down and translated $50°$ to the left

27. a cosine function, reflected over its center line axis with amplitude 7.5, period $450°$, translated vertically 5 units and horizontally $20°$

Your height above the ground (in feet) on a Ferris wheel with a radius 20 feet and loading platform 5 feet above the ground can be modeled by the equation $h(t) = -20\cos(9t) + 25$ where t is measured in seconds and h is measured in feet.

28. How long does it take for the Ferris wheel to make one complete revolution?
29. How many revolutions does the Ferris wheel make in 1 minute?
30. How many feet above the ground are you a) 15 seconds after the Ferris wheel starts? b) 40 seconds after the Ferris wheel starts? c) 60 seconds after the Ferris wheel starts?
31. Graph the equation.
32. At what times will you be at the point closest to the ground? highest above the ground?

For each of the following, write a new equation, based on the changes made to the properties of the Ferris wheel.

33. The Ferris wheel's loading platform is 8 feet off the ground. 34. The Ferris wheel makes one revolution in 36 seconds.
35. The radius of the Ferris wheel is 30 feet.

The table below gives the monthly mean temperatures in the Dallas-Ft. Worth area.

Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
43	48	57	66	73	81	85	85	77	67	56	47

36. Draw a scatter plot of the data using 1 for January, 2 for February, 3 for March and so on.

37. Assume the following facts: (1) The lowest temperature occurs in January. (2) The highest temperature occurs in July. (3) The graph is periodic with a period of 12. Model the data with

$y = \sin(x)$

$y = \cos(x)$