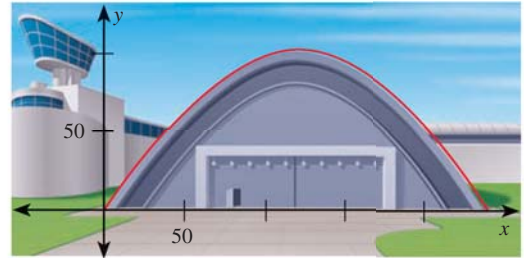


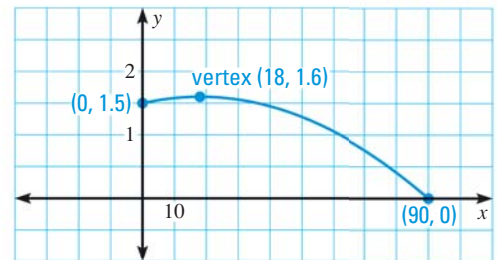
42. **TAKS REASONING** Students are selling packages of flower bulbs to raise money for a class trip. Last year, when the students charged \$5 per package, they sold 150 packages. The students want to increase the cost per package. They estimate that they will lose 10 sales for each \$1 increase in the cost per package. The sales revenue R (in dollars) generated by selling the packages is given by the function $R = (5 + n)(150 - 10n)$ where n is the number of \$1 increases.
- Write the function in standard form.
 - Find the maximum value of the function.
 - At what price should the packages be sold to generate the most sales revenue? *Explain* your reasoning.

43. **AIRCRAFT** An aircraft hangar is a large building where planes are stored. The opening of one airport hangar is a parabolic arch that can be modeled by the graph of the equation $y = -0.007x^2 + 1.7x$ where x and y are measured in feet. Graph the function. Use the graph to determine how wide the hangar is at its base.



44. **TAKS REASONING** The casts of some Broadway shows go on tour, performing their shows in cities across the United States. For the period 1990–2001, the number of tickets sold S (in millions) for Broadway road tours can be modeled by the function $S = 332 + 132t - 10.4t^2$ where t is the number of years since 1990. Was the greatest number of tickets for Broadway road tours sold in 1995? *Explain*.

45. **CHALLENGE** During an archery competition, an archer shoots an arrow from 1.5 meters off of the ground. The arrow follows the parabolic path shown and hits the ground in front of the target 90 meters away. Use the y -intercept and the points on the graph to write an equation for the graph that models the path of the arrow.



MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

REVIEW

Lesson 2.5;
TAKS Workbook

46. **TAKS PRACTICE** Simplify the algebraic expression $2(1 - a) - 5a$.
TAKS Obj. 2

(A) $-7a - 2$ (B) $-7a + 2$ (C) $-2a + 2$ (D) $3a + 2$

REVIEW

TAKS Preparation
p. 548;
TAKS Workbook

47. **TAKS PRACTICE** A 3-dimensional solid is shown. Which best represents the shape of the solid when viewed from the top? *TAKS Obj. 7*

(F) Pentagon (G) Hexagon
(H) Octagon (J) Not here

