

Solve each equation.

1. $x^2 - 25 = 0$

2. $6x^2 - 6 = 0$

3. $-3x^2 + 27 = 0$

4. $4x^2 - 1 = 0$

5. $4x^2 - 100 = 800$

6. $x^2 - 121 = 0$

7. $x^2 - 60 = 20$

8. $(x + 5)^2 - 6 = 43$

9. $(x - 1)^2 - 19 = 81$

10. $(x - 14)^2 + 13 = 14$

11. $2(x - 3)^2 + 1 = 73$

12. $(x - 1)^2 + 15 = 35$

13. $2(x + 1)^2 - 1 = 9$

14. $2(x - 3)^2 + 7 = 19$

15. $5(x - 7)^2 + 10 = 25$

16. An auditorium has a floor area of 20,000 square feet. The length of the auditorium is twice its width. Find the dimensions of the room.

17. A ball is dropped from a height of 64 feet. Its height, in feet, can be modeled by the projectile motion formula $h = -16t^2 + vt + s$, where t is the time in seconds since the ball was dropped. After how many seconds will the ball hit the ground?