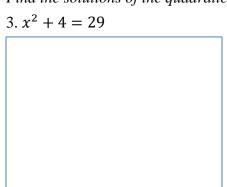*Answer the following questions about solving quadratics.*

1. What are the solving methods to solve for quadratic equations? *Fill in the methods in the diagram below.*
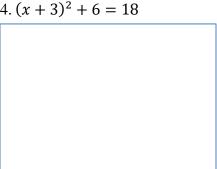
2 Terms (Binomials)   3 Terms (Trinomials)

   1. _____   1. _____

   2. _____   2. _____

   3. _____

2. In order to solve for x by using the taking square root method, you must <u>isolate the quadratic term</u>.
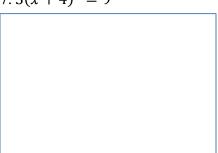
Find the solutions of the quadratics.

3. $x^2 + 4 = 29$

4. $(x + 3)^2 + 6 = 18$
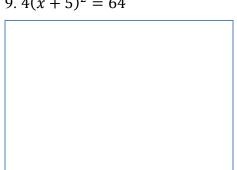
5. $(2x + 6)^2 - 8 = 24$

6. $3x^2 - 7 = 47$

7. $3(x + 4)^2 = 9$

8. $2x^2 - 338 = 0$

9. $4(x + 5)^2 = 64$

10. $x^2 + 11 = 16$

11. $9x^2 = 243$

12. The tallest building in the USA is in Chicago, Illinois. It is 1450 ft. tall. The equation of rise and fall is represented by $y = -16t^2 + 1450$. How long would it take a penny to drop from the top of the building to the ground?

5.5 Answers

$\boxed{1}$ *2 Terms:* 1. GCF Factoring, 2. Differences of Squares 3. Taking the Square Root; *3 Terms:* 1. GCF Factoring, 2. Factoring Trinomials $\boxed{2}$ isolate the quadratic term $\boxed{3}$ $x = -5, x = 5$

$\boxed{4}$ $x = -3 + 2\sqrt{3},\ x = -3 - 2\sqrt{3}$ $\boxed{5}$ $x = -3 + 2\sqrt{2}, x = -3 - 2\sqrt{2}$ $\boxed{6}$ $x = 3\sqrt{2}, x = -3\sqrt{2}$

$\boxed{7}$ $x = -4 + \sqrt{3}, x = -4 - \sqrt{3}$ $\boxed{8}$ $x = 13, x = -13$ $\boxed{9}$ $\boxed{10}$ $x = \sqrt{5}, x = -\sqrt{5}$

$\boxed{11}$ $x = 3\sqrt{3}, x = -3\sqrt{3}$ $\boxed{12}$ $t \approx 9.52\ seconds$