

Picking the “Best” Method to Solve Quadratic Equations

Method	Page	When You Can Use It	Advantages	Disadvantages
Factoring		whenever the quadratic is factorable	<ul style="list-style-type: none"> ▪ good method to try first ▪ straightforward (if the quadratic is factorable) 	<ul style="list-style-type: none"> ▪ not all quadratics are factorable
Square Roots		whenever the b term is $0x$	<ul style="list-style-type: none"> ▪ quick 	<ul style="list-style-type: none"> ▪ cannot use when the b term is anything but $0x$
Completing the Square		when $a = 1$ and b is even	<ul style="list-style-type: none"> ▪ will always work if $a = 1$ and b is even 	<ul style="list-style-type: none"> ▪ longer process ▪ multiple steps
Quadratic Formula		always works	<ul style="list-style-type: none"> ▪ always works 	<ul style="list-style-type: none"> ▪ other methods may be “easier” or quicker

Solve the following quadratic equation by the methods listed.

$$x^2 - 8x + 10 = -5$$

Factoring

Completing the Square

Quadratic Formula

Solving Quadratic Equations – Matching Worksheet

Solve the following by any method. Then, match the equation to the answer(s) on the right.

___ 1) $x^2 - 16x + 63 = 0$

___ 2) $x^2 + 6x - 2 = 0$

___ 3) $5x^2 = 45$

___ 4) $x^2 - 2x - 14 = -4$

___ 5) $4x^2 + 20x - 20 = 4$

___ 6) $(x + 3)^2 + 2 = -10$

___ 7) $2x^2 - 3x = 0$

___ 8) $x^2 - 4x - 18 = -x$

___ 9) $x^2 + 14x - 30 = 8$

___ 10) $3x^2 - 2x = 8$

___ 11) $x^2 - 9 = 0$

___ 12) $5x^2 + 9 = 134$

___ 13) $x^2 - 8x + 3 = 0$

___ 14) $2x^2 + x - 10 = 0$

___ 15) $2(x - 3)^2 - 12 = 4$

___ 16) $2x^2 + x - 10 = 5$

___ 17) $x^2 - 8x - 33 = 0$

___ 18) $x^2 - 4x - 12 = 0$

___ 19) $x^2 - 10x - 8 = 0$

___ 20) $2(x - 3)^2 = 8$

one answer will be used twice

a) $x = 3, x = -3$

b) $x = -3 \pm \sqrt{11}$

c) $x = 2, x = -\frac{5}{2}$

d) no real solution

e) $x = 1 \pm \sqrt{11}$

f) $x = -2, x = 6$

g) $x = \pm 5$

h) $x = 7, x = 9$

i) $x = 0, x = \frac{3}{2}$

j) $x = 3 \pm 2\sqrt{2}$

k) $x = -3, x = 6$

l) $x = 4 \pm \sqrt{13}$

m) $x = 5 \pm \sqrt{33}$

n) $x = -3, x = 11$

o) $x = 1, x = 5$

p) $x = 2, x = -\frac{4}{3}$

q) $x = -7 \pm \sqrt{87}$

r) $x = -3, x = \frac{5}{2}$

s) $x = -6, x = 1$