

What Do You Call It When Somebody Spends 20 Years in the 24th Row of a Theater?

Solve each equation below using the quadratic formula. Find the solution set at the bottom of the page and print the letter of the exercise above it.

- I $2x^2 - 7x + 5 = 0$ I $x^2 - 6x + 4 = 0$
 N $2x^2 + x - 6 = 0$ L $t^2 + 4t - 2 = 0$
 S $3n^2 - 2n - 5 = 0$ N $3x^2 + 10x + 5 = 0$
 A $w^2 + 7w + 4 = 0$ V $4x^2 - 3x = 1$
 I $5x^2 + 3x - 3 = 0$ L $2d^2 + 4 = 5d$
 G $6x^2 - x = 2$ X $2x = 7 - x^2$
 E $2y^2 + 2 = 9y$ I $y^2 + 9 = -9y$

$\{-2 \pm \sqrt{6}\}$	$\left\{-3 \pm \sqrt{69}\right\}$	$\left\{1, -\frac{1}{4}\right\}$	$\{3 \pm \sqrt{5}\}$	$\left\{\frac{3}{2}, -2\right\}$	$\left\{\frac{2}{1}, \frac{3}{2}\right\}$	$\left\{-1 \pm 3\sqrt{5}\right\}$	$\left\{\frac{5}{1}, \frac{2}{1}\right\}$	$\left\{-5 \pm \sqrt{10}\right\}$	$\left\{-9 \pm \sqrt{30}\right\}$	$\{-1 \pm 2\sqrt{2}\}$	$\left\{2, -\frac{3}{2}\right\}$	$\left\{-7 \pm \sqrt{33}\right\}$	$\left\{-9 \pm 3\sqrt{5}\right\}$	$\left\{\frac{5}{3}, -1\right\}$	no solution	$\left\{9 \pm \sqrt{65}\right\}$
					<input checked="" type="radio"/> I					<input type="radio"/> X			<input type="radio"/> I		<input type="radio"/> L	<input type="radio"/> E

What Is a Metaphor?

Solve each equation below using the quadratic formula. Cross out the box that contains the solution set. When you finish, print the letters from the remaining boxes in the spaces at the bottom of the page.

- ① $x^2 + 4x + 3 = 0$
- ② $x^2 - 7x + 10 = 0$
- ③ $x^2 + 5x + 6 = 0$
- ④ $x^2 - 3x - 4 = 0$
- ⑤ $y^2 + 2y - 8 = 0$
- ⑥ $x^2 - 5x + 2 = 0$
- ⑦ $d^2 + 3d - 7 = 0$
- ⑧ $2x^2 - 5x + 2 = 0$
- ⑨ $2n^2 - 3n - 5 = 0$
- ⑩ $3x^2 + 5x + 1 = 0$
- ⑪ $3y^2 - 2y - 8 = 0$



ONE $\{5, 2\}$	ATH $\left\{\frac{-5 \pm \sqrt{13}}{6}\right\}$	TOK $\left\{-4, \frac{1}{2}\right\}$	ING $\left\{\frac{5}{2}, -1\right\}$	ICK $\left\{\frac{-3 \pm \sqrt{37}}{2}\right\}$
ASL $\{-2, -3\}$	EEP $\left\{\frac{3 \pm \sqrt{15}}{2}\right\}$	MET $\{2, -4\}$	BOW $\left\{2, -\frac{4}{3}\right\}$	COW $\left\{\frac{2 \pm \sqrt{30}}{6}\right\}$
BOY $\left\{2, \frac{1}{2}\right\}$	RIT $\{-1, -3\}$	SIN $\{6, 1\}$	GLE $\left\{\frac{5 \pm \sqrt{17}}{2}\right\}$	ING $\{4, -1\}$

Puzzle #222

$$\textcircled{L} \quad 2d^2 - 5d + 4 = 0$$

$$a = 2 \quad b = -5 \quad c = 4$$

$$b^2 - 4ac$$

$$25 - 4(2)(4)$$

$$= 25 - 32$$

$$= -7 \rightarrow \sqrt{-7}$$

no solution

$$\textcircled{G} \quad 6x^2 - x = 2$$

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

$$a = 6$$

$$b^2 - 4ac$$

$$b = -1$$

$$(-1)^2 - 4(6)(-2)$$

$$c = -2$$

$$= 1 + 48$$

$$= 49$$

$$\sqrt{b^2 - 4ac} = \sqrt{49} = 7$$

$$x = \frac{-b \pm 7}{2a} = \frac{1 \pm 7}{12}$$

$$\begin{aligned} \nearrow \frac{1+7}{12} &= \frac{8}{12} \\ &= \frac{2}{3} \end{aligned}$$

$$\begin{aligned} \searrow \frac{1-7}{12} &= \frac{-6}{12} \\ &= -\frac{1}{2} \end{aligned}$$

(X)

$$2x = 7 - x^2$$

$$x^2 + 2x - 7 = 0$$

$$a = 1$$

$$b = 2$$

$$c = -7$$

$$b^2 - 4ac$$

$$4 - 4(1)(-7)$$

$$4 + 28$$

$$32$$

$$\sqrt{b^2 - 4ac} = \sqrt{32} = \sqrt{16} \sqrt{2} = 4\sqrt{2}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-2 \pm 4\sqrt{2}}{2}$$

$$\text{or } -1 \pm 2\sqrt{2}$$

$$E. \quad 2y^2 + 2 = 9y$$

$$2y^2 - 9y + 2 = 0$$

$$a = 2$$

$$b^2 - 4ac$$

$$b = -9$$

$$= (-9)^2 - 4(2)(2)$$

$$c = 2$$

$$= 81 - 16$$

$$= 65$$

$$\sqrt{b^2 - 4ac} = \sqrt{65}$$

$$x = \frac{-b \pm \sqrt{65}}{2a}$$

$$x = \frac{9 \pm \sqrt{65}}{4}$$

$$\textcircled{I}. \quad y^2 + 9y + 9 = 0$$

$$a = 1$$

$$b^2 - 4ac$$

$$b = 9$$

$$81 - 4(1)(9)$$

$$c = 9$$

$$81 - 36$$

$$= 45$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-9 \pm 3\sqrt{5}}{2}$$

$$\sqrt{b^2 - 4ac} = \sqrt{45} = \sqrt{9 \cdot 5} = 3\sqrt{5}$$

