### Lesson 19 Practice Problems

1. Without calculating the solutions, determine whether each equation has real solutions or not.
	1. $-0.5x^{2}+3x=0$
	2. $x^{2}−4x+7=0$
	3. $2x^{2}−2x−1=0$
	4. $-0.5x^{2}+3x=3$
	5. $x^{2}−4x+7=5$
	6. $2x^{2}−2x−1=-4$
* $y=-0.5x^{2}+3x$
* 
* $y=x^{2}−4x+7$
* 
* $y=2x^{2}−2x−1$
* 
1. The graph shows the equation $y=2x^{2}+0.5x−4$.
* 
* Based on the graph, what number could you put in the box to create an equation that has no real solutions?
$2x^{2}+0.5x−4=$
1. The graph shows the equation $y=1.5x^{2}−3x+2$.
* 
	1. Without calculating the solutions, determine whether $1.5x^{2}−3x+2=0$ has real solutions.
	2. Show how to solve $1.5x^{2}−3x+2=0$.
1. Write a quadratic equation that has two non-real solutions. How did you decide what equation to write?
2. Find the solution or solutions to each equation.
	1. $-2x^{2}+2x=2.5$
	2. $4.5x^{2}+3x+\frac{1}{2}=0$
	3. $\frac{1}{2}x^{2}+5x=-14$
	4. $-x^{2}−1.5x+5=7$
3. Elena and Kiran were solving the equation $2x^{2}−4x+3=0$ and they got different answers. Elena wrote $1\pm i\sqrt{0.5}$, and Kiran wrote $1\pm \frac{i\sqrt{8}}{4}$. Are their answers equivalent? Say how you know.



© CC BY 2019 by Illustrative Mathematics®