**9.6 Solving Quadratic Equations by Using the Quadratic Formula**

Warm-up: Evaluate for $x^{2}$

|  |  |
| --- | --- |
| $$x=-1$$ | $$x=6$$ |
| $$x=-3$$ | $$x=4$$ |

Evaluate for $b^{2}-4ac$

|  |  |
| --- | --- |
| $$a=1, b=3, c=4$$ | $$a=1, b=-3, c=2$$ |
| $$a=a=4, b=-3, c=7$$ | $$a=-1, b=-5, c=-7$$ |

Standard Form of a Quadratic Equation:

Discriminant



How many real solutions does the quadratic equation have?

|  |  |
| --- | --- |
| 1. $3x^{2}+10+2=0$
 | 1. $9x^{2}-6x=-1$
 |
| 1. $x^{2}+x+1=0$
 | 1. $x^{2}+3=2x$
 |

The Quadratic Formula:

Solve. Round to the nearest tenth, if necessary.

|  |  |
| --- | --- |
| 1. $2x^{2}+3x-5=0$
 | 1. $2x=x^{2}-3$
 |
| 1. $x^{2}-2x-4=0$
 | 1. $2x^{2}-8x+1=0$
 |

Your turn.

Find the number of real solutions.

|  |  |
| --- | --- |
| 1. $x^{2}+7x-5=0$
 | 1. $x^{2}-15=0$
 |
| 1. $2x^{2}+16=5x$
 | 1. $9x^{2}+12x=-4$
 |

Solve. Round to the nearest tenth, if necessary.$ $(easy)

|  |  |
| --- | --- |
| 1. $x^{2}-5x+4=0$
 | 1. $x^{2}+8x+15=0$
 |
| 1. $x^{2}+x+3=0$
 | 1. $x^{2}=-14x-40$
 |
| 1. $3x^{2}+14x-5=0$
 | 1. $x^{2}-6x-7=0$
 |
| 1. $2x^{2}=7x-3$
 | 1. $6x^{2}+x-1=0$
 |

Hw: Section 9.6 p. 586 #7-15 odd, 23-39 odd