Unit 4 HW 16 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:

**Simplify each expression. Give exact answers**

|  |  |  |
| --- | --- | --- |
| 1. $\sqrt{28}$
 | 1. $\sqrt{75}$
 | 1. $\sqrt{76}$
 |
| 1. $\frac{16\pm \sqrt{8}}{12}$
 | 1. $\frac{15\pm \sqrt{54}}{6}$
 | 1. $\frac{24\pm \sqrt{192}}{-8}$
 |

**For #7-9 find the x-intercepts of all 3 quadratic equations. Give EXACT answers.**

**USE EACH METHOD EXACTLY ONCE (factoring, completing the square, quadratic formula).**

|  |  |
| --- | --- |
| 1. $y=x^{2}-16x+24$
 | 1. $y=3x^{2}+12x+8$
 |
| 1. $y=x^{2}-11x-80$
 |  |

**Find the x-intercepts by factoring Find the x-intercepts by completing the square**

|  |  |
| --- | --- |
| 1. $y=x^{2}+16x+63$
 | 1. $y=x^{2}+16x+63$
 |

**Find the x-intercepts by quadratic Formula Graph the quadratic equation**

|  |  |
| --- | --- |
| 1. $y=x^{2}+16x+63$
 | 1. $y=x^{2}+16x+63$
 |

1. Mr. Belby climbs to the top of the school and kicks a soccer ball off the roof with an initial velocity of 58 feet per second from a height of 32 feet.
	1. How long will it take the ball to reach its maximum height?
	2. What is the soccer balls maximum height?