

Name _____

Date _____ Pd. _____

Notes: Perfect Squares and Factoring Continued

Square Root Property

Example

Solve each equation. Check your solutions.

a. $x^2 - 6x + 9 = 0$

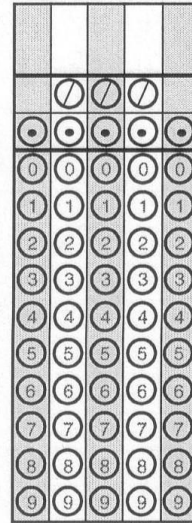
b. $(a - 5)^2 = 64$

Name _____

Date _____ Pd. _____

Exit Card: Perfect Squares and Factoring Continued

A golf ball is hit from the ground, and its height, h , is given by the function $h(t) = -16t^2 + 80t$ feet, where t is in seconds. How many seconds will it take the golf ball to hit the ground?



BCR

Jill states that the polynomial $2x^2 + 11x + 10$ is a prime trinomial.

- Is Jill correct? Use mathematics to justify your answer.

Name _____

Date _____ Pd. _____

Homework: Pages 513 – 514 (43 – 46, 57 – 60, 67, 68)

43. $3x^2 + 24x + 48 = 0$

44. $7r^2 = 70r - 175$

45. $49a^2 + 16 = 56a$

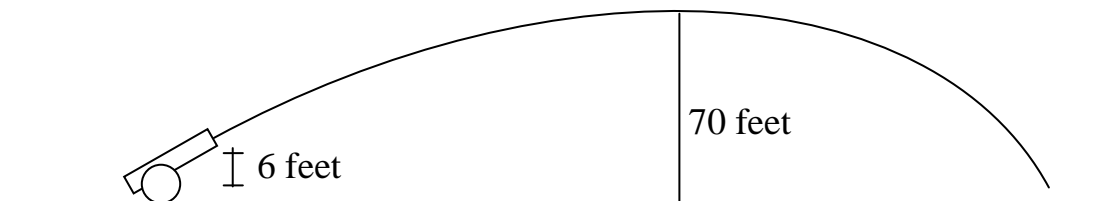
46. $18y^2 + 24y + 8 = 0$

The height h in feet of a car above the exit ramp of an amusement park's free-fall ride can be modeled by $h = -16t^2 + s$, where t is the time in seconds after the car drops and s is the starting height of the car in feet.

57. How high above the car's exit ramp should the ride's designer start the drop in order for riders to experience free fall for at least 3 seconds?

58. Approximately how long will riders be in free fall if their starting height is 160 feet above the exit ramp?

59. A circus acrobat is shot out of a cannon with an initial upward velocity of 64 feet per second. If the acrobat leaves the cannon 6 feet above the ground, will he reach a height of 70 feet? If so, how long will it take him to reach that height? Use the model for vertical motion [$h(t) = -16t^2 + vt + h_0$].



60. Determine all of the values of k that make $x^2 + kx + 64$ a perfect square trinomial.

67. During an experiment, a ball is dropped off a bridge from a height of 205 feet. The formula $205 = 16t^2$ can be used to approximate the amount of time, in seconds, it takes for the ball to reach the surface of the water of the river below the bridge. Find the time it takes the ball to reach the water to the nearest tenth of a second.

A 2.3 s B 3.4 s C 3.6 s D 12.8 s

68. If $\sqrt{a^2 - 2ab + b^2} = a - b$, then which of the following statements best describes the relationship between a and b ?

A $a < b$ B $a \leq b$ C $a > b$ D $a \geq b$