

Name: _____

Teacher: Lee

1. The height of a ball Doreen tossed into the air can be modeled by the function $h(x) = -4.9x^2 + 6x + 5$, where x is the time elapsed in seconds, and $h(x)$ is the height in meters. The number 5 in the function represents

1. the initial height of the ball
2. the time at which the ball reaches the ground
3. the time at which the ball was at its highest point
4. the maximum height the ball attained when thrown in the air

2. Abigail's and Gina's ages are consecutive integers. Abigail is younger than Gina and Gina's age is represented by x . If the difference of the square of Gina's age and eight times Abigail's age is 17, which equation could be used to find Gina's age?

1. $(x + 1)^2 - 8x = 17$
2. $(x - 1)^2 - 8x = 17$
3. $x^2 - 8(x + 1) = 17$
4. $x^2 - 8(x - 1) = 17$

3. The gas mileage, M , in miles per gallon, for a new hybrid car is modeled by the function $M(s) = -\frac{1}{16}s^2 + 7.5s - 150$, where s is the speed in miles per hour. What is the best gas mileage that the car achieves?

1. 45 miles per gallon
2. 60 miles per gallon
3. 75 miles per gallon
4. 90 miles per gallon

4. What are the roots of the equation $x^2 - 10x - 20 = 0$?

1. $10 \pm 6\sqrt{5}$
2. $-10 \pm 6\sqrt{5}$
3. $5 \pm 3\sqrt{5}$
4. $-5 \pm 3\sqrt{5}$

5. What are the roots of the equation $x^2 + 8x - 12 = 0$?

1. $-4 \pm 2\sqrt{7}$
2. $4 \pm 2\sqrt{7}$
3. $-8 \pm 4\sqrt{7}$
4. $8 \pm 4\sqrt{7}$

6. What are the solutions to the equation $x^2 - 8x = 24$?

1. $x = 4 \pm 2\sqrt{10}$
2. $x = -4 \pm 2\sqrt{10}$
3. $x = 4 \pm 2\sqrt{2}$
4. $x = -4 \pm 2\sqrt{2}$