Quadratic Applications Worksheet

MATH MONKS

1. A baseball thrown in the air is represented by the equation $h = -16t^2 + 12t + 40$, where h is the height the ball has reached. After how many seconds will the ball hit the ground?

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2. If the quadratic equations $3g^2 + ag + 1 = 0$ and $2g^2 + bg + 1 = 0$ have a common root, find the value of the expression $5ab - 2a^2 - 3b^2$.

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3. Find two consecutive negative even integers whose product is 24.

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4. When the sum of 522 and three times a positive number is subtracted from the square of the number, the result is 126. Find the number.

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5. If the length of each side of a square is increased by 6 units, the area is multiplied by 16 units. Find the length of one side of the original square.

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Answers

1. A baseball thrown in the air is represented by the equation $h = -16t^2 + 12t + 40$, where h is the height the ball has reached. After how many seconds will the ball hit the ground?

2 seconds

2. If the quadratic equations $3g^2 + ag + 1 = 0$ and $2g^2 + bg + 1 = 0$ have a common root, find the value of the expression $5ab - 2a^2 - 3b^2$.

1

3. Find two consecutive negative even integers whose product is 24.

-6, -4

4. When the sum of 522 and three times a positive number is subtracted from the square of the number, the result is 126. Find the number.

27

5. If the length of each side of a square is increased by 6 units, the area is multiplied by 16 units. Find the length of one side of the original square.

4 units