

Quadratic Functions Hangman

This game reviews vocabulary students need when they analyze quadratic functions of the form $y = a(x - p)^2 + q$ and $y = ax^2 + bx + c$, including vertex, domain and range, direction of opening, axis of symmetry, and x- and y-intercepts ([Outcome](#), [Outcome](#), [Outcome](#)). It also draws on the language used to factor polynomial expressions when solving quadratic equations ([Outcome](#), [Outcome](#)). Working through these terms supports the analysis of quadratic functions in vertex form and the determination of key features such as the vertex, domain and range, direction of opening, axis of symmetry, and x- and y-intercepts ([Resource](#), [Resource](#)).

How to play

Each puzzle gives a definition or a fill-in-the-blank sentence related to quadratic functions. Guess the hidden word one letter at a time.

For every incorrect letter, add one part to the hangman drawing (head, body, left arm, right arm, left leg, right leg). A player who completes the full drawing before guessing the word loses that round.

Work alone or in pairs. Check off each letter you have already guessed so you do not repeat it. When you think you know the word, say it or write it in full before revealing the answer key.

Puzzles

Round 1 (7 letters)

O _ _ _ _ _ _

Clue: Whether a parabola points upward or downward.

Wrong guesses: _ _ _ _ _

Round 2 (6 letters)

D _ _ _ _ _

Clue: The set of all possible input values for a function.

Wrong guesses: _ _ _ _ _

Round 3 (8 letters)

S _ _ _ _ _ _ _

Clue: A line that divides a parabola into two identical halves.

Wrong guesses: _ _ _ _ _

Round 4 (9 letters)

F _ _ _ _ _ _ _ _

Clue: Breaking a polynomial into a product of simpler expressions.

Wrong guesses: _ _ _ _ _

Answer key

- Round 1: **OPENING**

- Round 2: **DOMAIN**
- Round 3: **SYMMETRY**
- Round 4: **FACTORING**

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