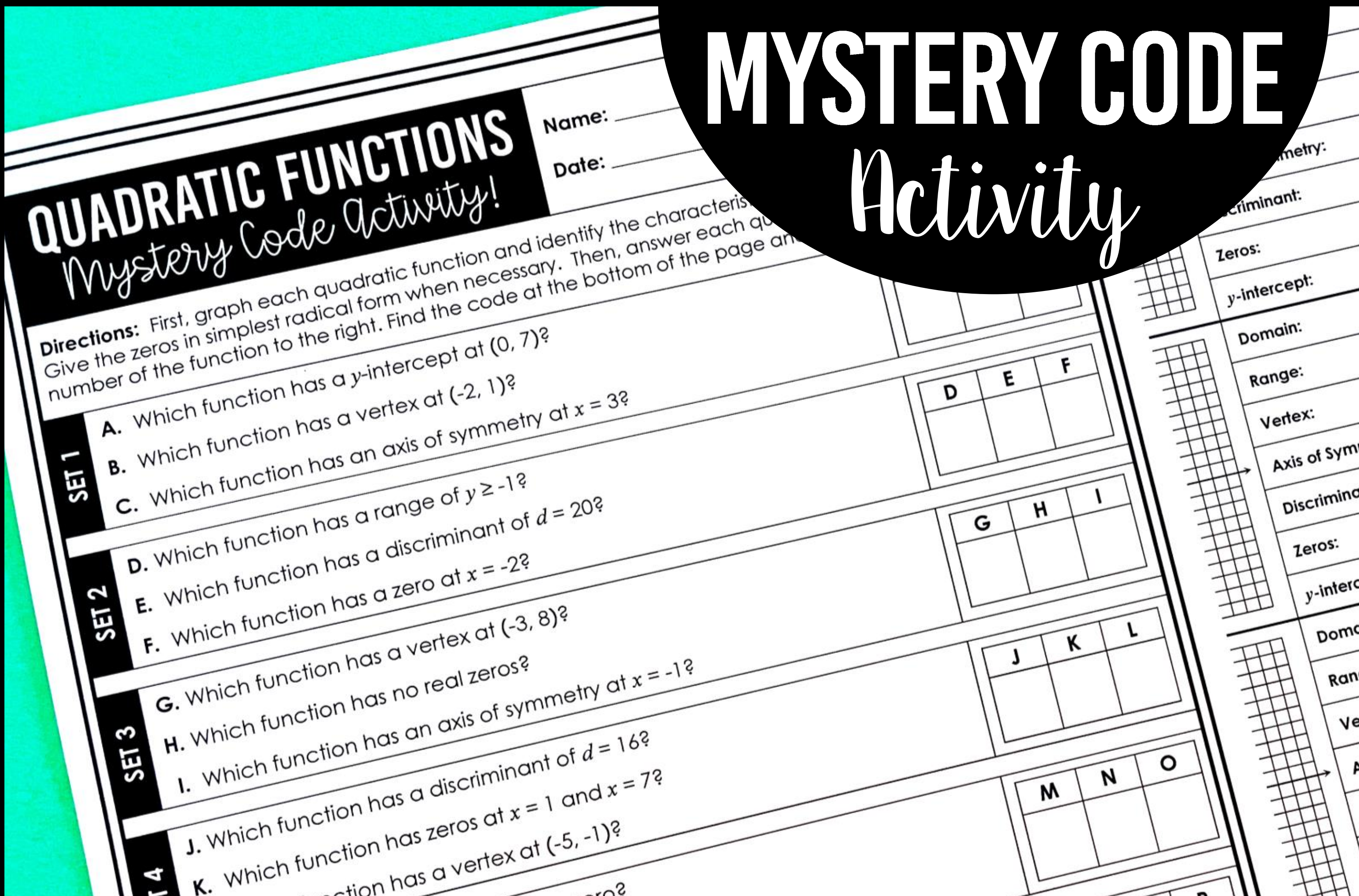
MYSTERY CODE Activity



QUADRATIC FUNCTIONS
Mystery Code Activity!

Name:

Date:

Directions: First, graph each quadratic function and identify the characteris... Give the zeros in simplest radical form when necessary. Then, answer each qu... number of the function to the right. Find the code at the bottom of the page an...

SET 1
A. Which function has a y-intercept at (0, 7)?
B. Which function has a vertex at (-2, 1)?
C. Which function has an axis of symmetry at $x = 3$?

D	E	F

SET 2
D. Which function has a range of $y \geq -1$?
E. Which function has a discriminant of $d = 20$?
F. Which function has a zero at $x = -2$?

G	H	I

SET 3
G. Which function has a vertex at (-3, 8)?
H. Which function has no real zeros?
I. Which function has an axis of symmetry at $x = -1$?

J	K	L

SET 4
J. Which function has a discriminant of $d = 16$?
K. Which function has zeros at $x = 1$ and $x = 7$?
K. Which function has a vertex at (-5, -1)?

M	N	O

Domain:
Range:
Vertex:
Axis of Symm...
Discriminant:
Zeros:
y-intercept:

QUADRATIC
functions

Created by: ALL THINGS ALGEBRA®

QUADRATIC FUNCTIONS

Mystery Code Activity

Objective: Students will practice graphing and identifying characteristics of quadratic functions with this Mystery Code Activity. Characteristics include domain, range, vertex, axis of symmetry, discriminant, zeros, and y-intercept. There are 3 functions given in standard form, 3 functions given in vertex form, and two functions given in factored form (8 total functions to graph). Types of zeros include two rational zeros, one rational zero, two irrational zeros, and no real zeros. There are two versions- one with irrational given in simplest radical form, and another where they are approximated to the nearest hundredth.

Directions:

1) Each student will need the Mystery Code Activity sheet (page 3 if using exact zeros or page 4 if using approximate zeros) and the quadratic function graphs (page 5-6). This also makes a great partner or group activity!

2) Students graph and identify the key characteristics for each quadratic function. The graphing can be done prior as a homework assignment or in class along with the activity.

3) Each set on the activity sheet contains three questions. Students choose the quadratic function that matches the characteristic description and record the number of the function.

4) There are directions at the bottom of the Mystery Code page to find the code. Students can check this code with you.