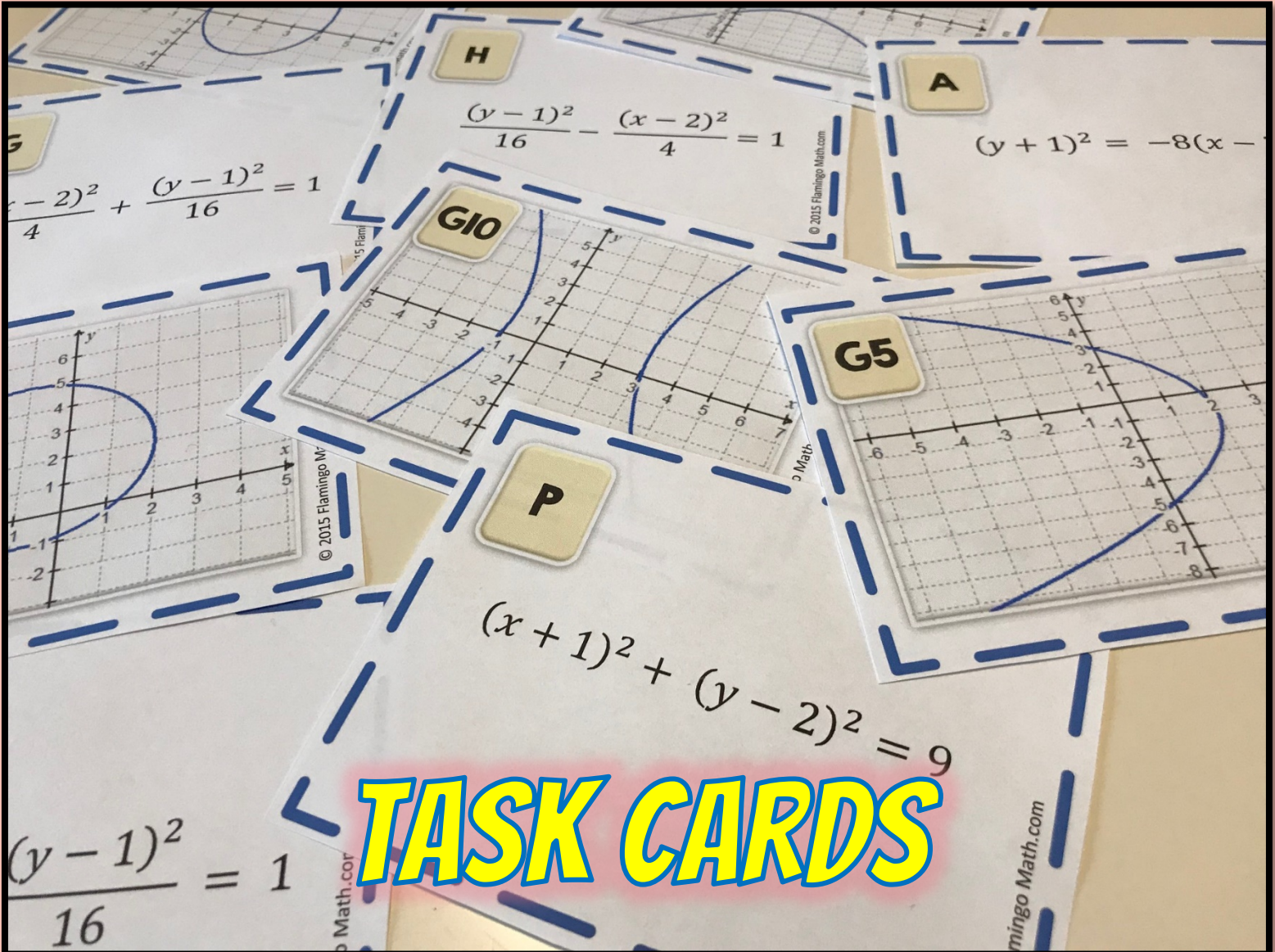
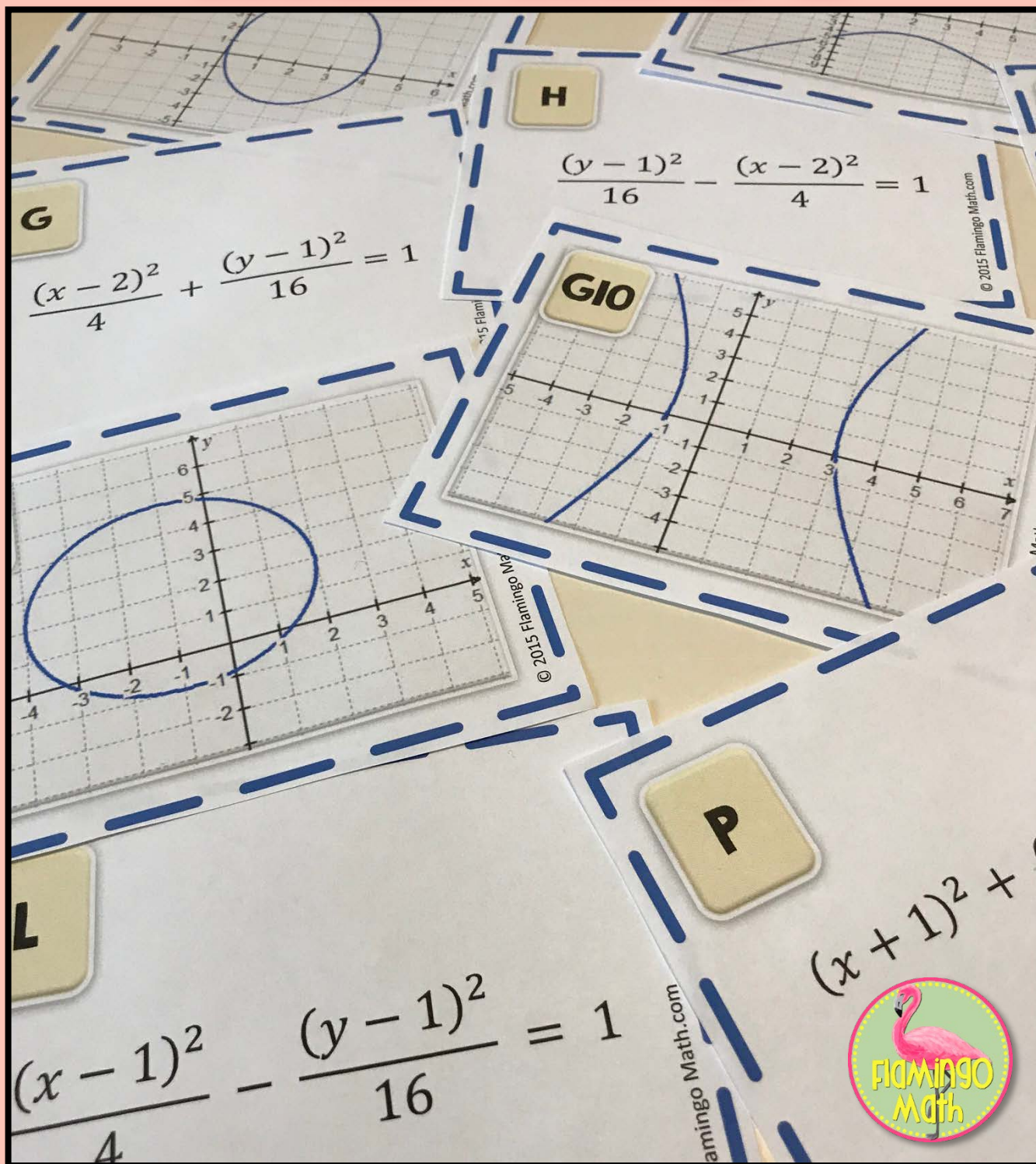




CONIC SECTIONS



TASK CARDS



CONIC SECTIONS

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CONIC SECTIONS SORT & MATCH TASK CARDS

OBJECTIVE:

In this activity, your Precalculus students can practice the vocabulary of conic sections while investigating similarities and differences in the properties of parabolas, ellipses, and hyperbolas.

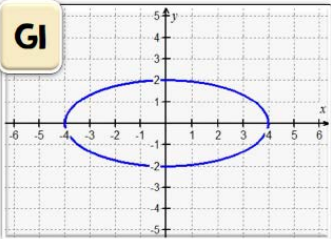
The activity can be used in a variety of ways to aid learners in the understanding of key elements related to conics. It's best to use the graphs to sort first, then incorporate the equations to complete the matching portion of the exercise.

PREPARATION:

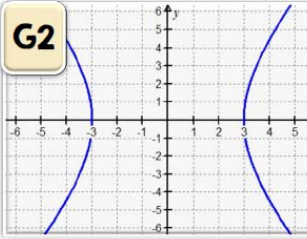
Copy sets of the cards on cardstock and cut apart. Have them laminated, if possible.

Please visit my store for more engaging task card activities.

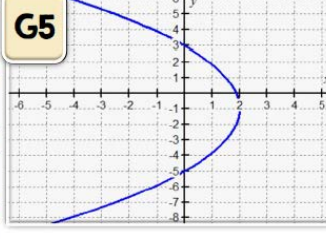
G1



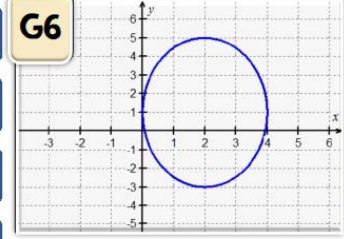
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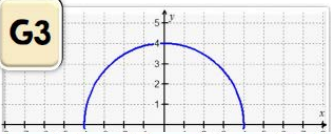
G5



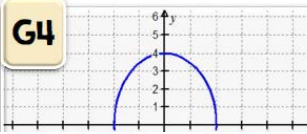
G6



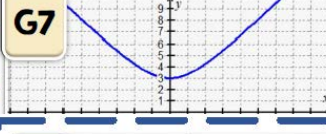
G3



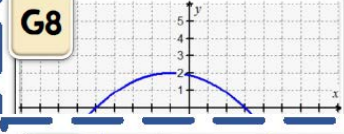
G4



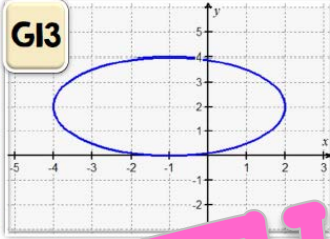
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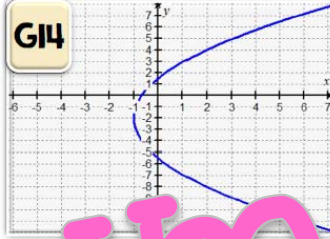
G8



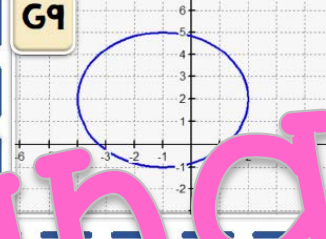
G13



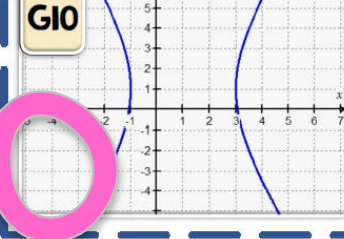
G14



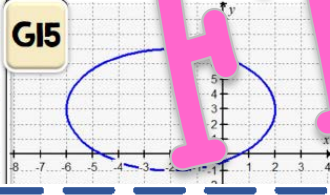
G9



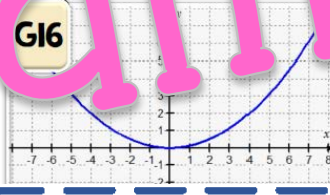
G10



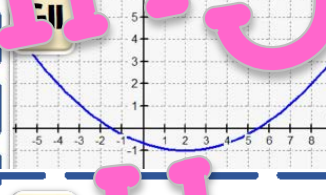
G15



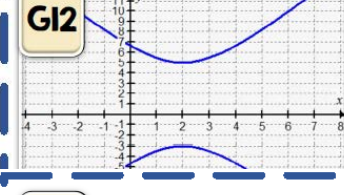
G16



G11



G12



A

$$(y + 1)^2 = -8(x - 2)$$

B

$$\frac{(x + 2)^2}{9} + \frac{(y - 2)^2}{4} = 1$$

I

$$4y^2 - 9x^2 = 36$$

J

$$y^2 - 12x + 4y = 8$$

C

$$25x^2 - 9y^2 = 225$$

D

$$x^2 - 4x - 12y - 8 = 0$$

K

$$4x^2 + y^2 = 16$$

L

$$\frac{(x - 2)^2}{4} - \frac{(y - 1)^2}{16} = 1$$

E

$$x^2 = 8y$$

F

$$x^2 + 4y^2 = 16$$

M

$$(x + 1)^2 = -8(y - 2)$$

N

$$x^2 + y^2 = 16$$

G

$$\frac{(x - 2)^2}{4} + \frac{(y - 1)^2}{16} = 1$$

H

$$\frac{(y - 1)^2}{16} - \frac{(x - 2)^2}{4} = 1$$

O

$$(x + 2)^2 + (y - 3)^2 = 16$$

P

$$(x + 1)^2 + (y - 2)^2 = 9$$

Sort & Match Conic Sections

OBJECTIVE: The objective is to sort the set of cards from conic sections into sets that share a common characteristic. Record answers on a sorting mat or on Post-It Notes. Then share between groups and/or in the whole group.

GOAL: Students reinforce their use and understanding of mathematics vocabulary of terms, properties, and characteristics. Students work independently, in pairs, or in small groups to sort objects into categories that have a common characteristic.

CLOSED SORT: Teacher determines the categories for the card sort.

Examples:

1. Using the graphs only, sort the given cards of conic sections into groups according to their shapes—parabolas, ellipses, or hyperbolas.
2. Using the equations only, sort the given cards according to their shapes.
3. Using graphs only, sort by horizontal or vertical axis characteristics.

OPEN SORT:

Students sort the cards into categories that they determine and name/describe themselves. The general rule for open sorts is to make groups containing at least 3 cards.

For example: Students might sort the conic section cards into categories that pass through the origin, conics that are oriented up or right, and down or left.

EXTENSION ACTIVITY:

Use a Matching Activity, first as a sort to help students categorize by properties, then use the cards to match those that represent the same things.



Conic Sections Equations and Their Characteristics

NAME _____

Match the graphs of the sixteen conic sections to their equations.

1. _____	5. _____	9. _____	13. _____
2. _____	6. _____	10. _____	14. _____
3. _____	7. _____	11. _____	15. _____
4. _____	8. _____	12. _____	16. _____

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Conic Sections Equations and Their Characteristics

NAME _____

Match the graphs of the sixteen conic sections to their equations.

1. _____	5. _____	9. _____	13. _____
2. _____	6. _____	10. _____	14. _____
3. _____	7. _____	11. _____	15. _____
4. _____	8. _____	12. _____	16. _____

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Conic Sections Equations and Their Characteristics

NAME _____ DATE _____

Use the given equations to make groups of at least three equations that have similar characteristics. Name or describe the characteristic.

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Characteristic:	Characteristic:	Characteristic:

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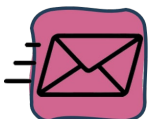
Meet the author:



My goal is to help you bring balance into your teacher life by providing relevant content, engaging activities, and comprehensive assessments for your high-stakes math course.

Jean Adams

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