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Matching Graphs Games Circles

This is a group activity that works well with groups of three or four. There are 8 of each type of card, each with a different color. One type of card is an equation card. Another type of card has the graph for each equation. Other cards have information that is needed to make the graph, such as the center. Each group should get a set of cards which they will sort into piles of cards which match to a graph. After the cards have been sorted give each group one blank information sheet to fill in. This makes it easier to check that they have sorted the cards correctly.

This is a good activity to do to help students see the connection between graphs and equations. I usually do this activity after students have learned all the parts of how to graph that conic. This activity can serve as an introduction on how to take a graph and use it to write the equation.

CIRCLE MATCHING GAME

ANSWER
KEY

GRAPH	STANDARD FORM	CENTER	RADIUS
G1	$x^2 + y^2 = 16$	$(0, 0)$	$r = 4$
G2	$(x-3)^2 + y^2 = 4$	$(3, 0)$	$r = 2$
G3	$(x+2)^2 + (y+3)^2 = 9$	$(-2, -3)$	$r = 3$
G4	$(x+1)^2 + (y-2)^2 = 16$	$(-1, 2)$	$r = 4$
G5	$(x+2)^2 + (y-3)^2 = 4$	$(-2, 3)$	$r = 2$
G6	$(x-3)^2 + (y+1)^2 = 9$	$(3, -1)$	$r = 3$
G7	$x^2 + (y-1)^2 = 25$	$(0, 1)$	$r = 5$
G8	$(x-1)^2 + y^2 = 25$	$(1, 0)$	$r = 5$

GRAPH	STANDARD FORM	CENTER	RADIUS
G1			
G2			
G3			
G4			
G5			
G6			
G7			
G8			

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

$$(x-3)^2 + y^2 = 4$$

$$(x+2)^2 + (y+3)^2 = 9$$

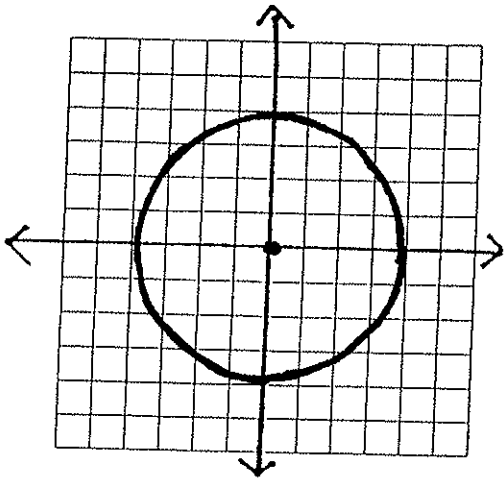
$$(x+1)^2 + (y-2)^2 = 16$$

$$(x+2)^2 + (y-3)^2 = 4$$

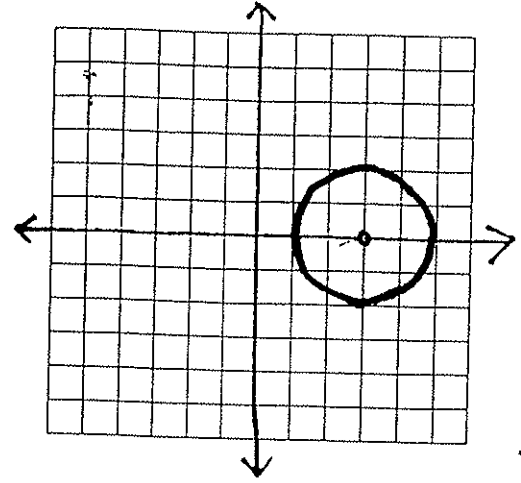
$$(x-3)^2 + (y+1)^2 = 9$$

$$x^2 + (y-1)^2 = 25$$

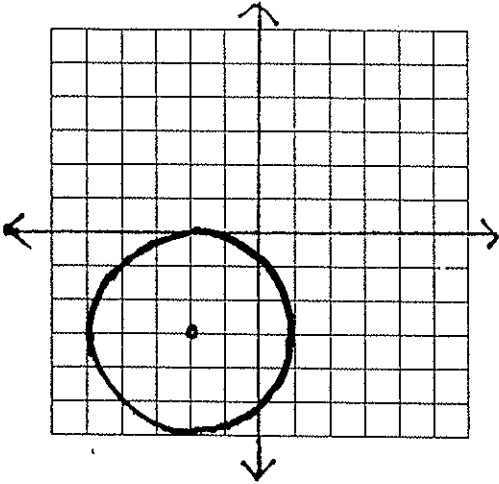
$$(x-1)^2 + y^2 = 25$$



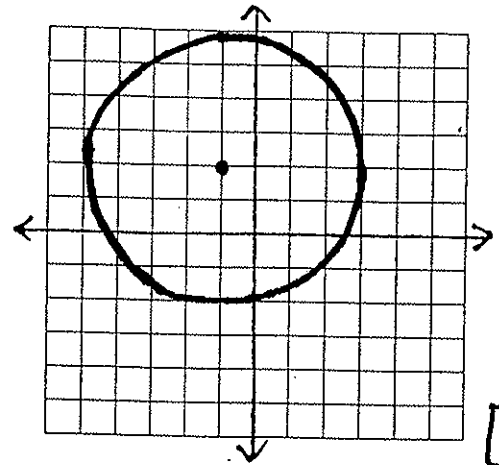
G1



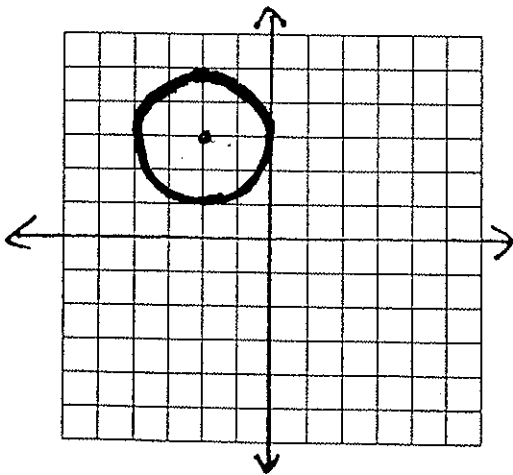
G2



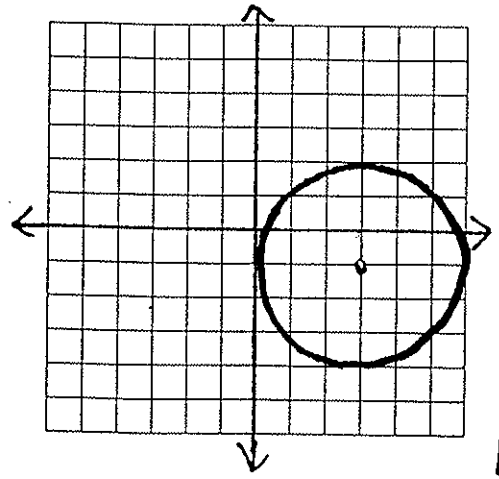
G3



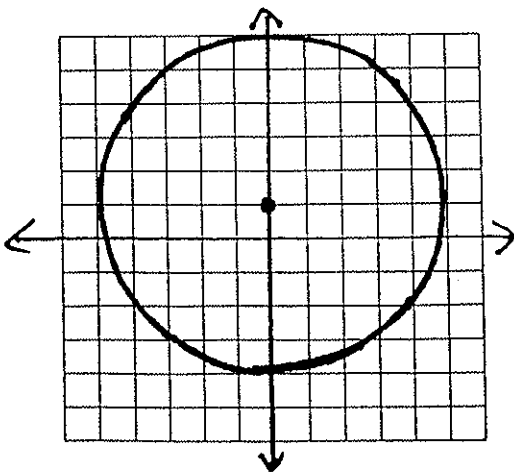
G4



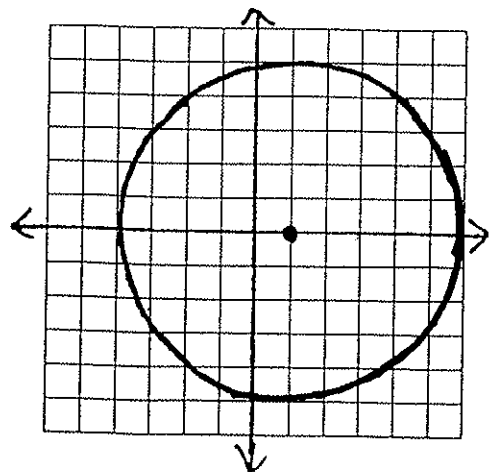
G5



G6



G7



G8

CENTER
 $(0,0)$

CENTER
 $(3,0)$

CENTER
 $(-2,-3)$

CENTER
 $(-1,2)$

CENTER
 $(-2,3)$

CENTER
 $(3,-1)$

CENTER
 $(0,1)$

CENTER
 $(1,0)$

$$\Gamma = 4$$

$$\Gamma = 2$$

$$\Gamma = 3$$

$$\Gamma = 4$$

$$\Gamma = 2$$

$$\Gamma = 3$$

$$\Gamma = 5$$

$$\Gamma = 5$$