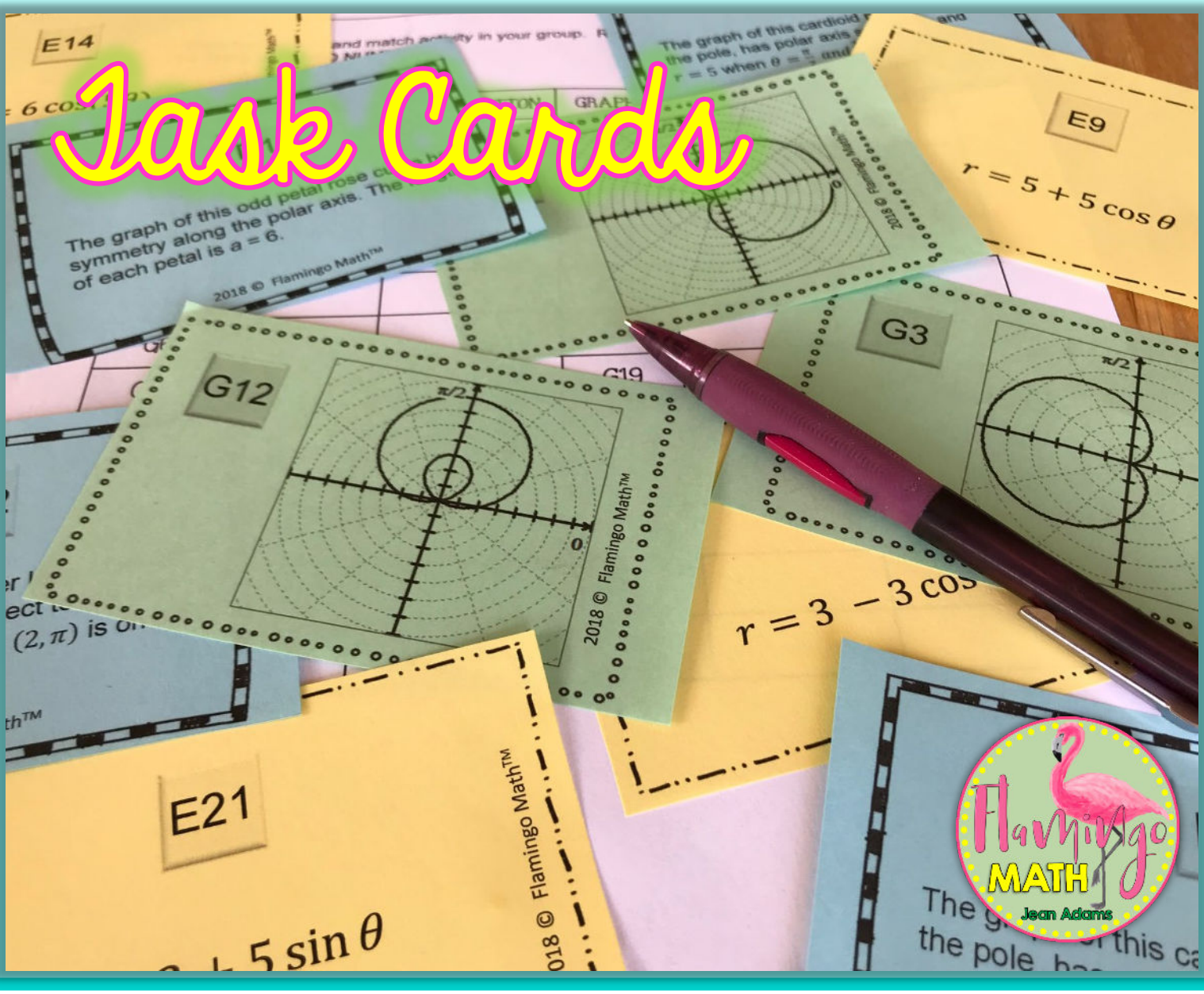
Polar Graphs Sort and Match



Polar Graphs Sort and Match Activity



KEY CONCEPTS/TOPICS:

1. Analyze polar graphs properties and characteristics.

GENERAL DIRECTIONS:

Students review polar graphs and use the task cards to match based on characteristics.

Product Overview

Polar Graphs Sort and Match Activity

This is an activity with 72 cards meant for Precalculus or Trigonometry. There are 24 polar graph cards that have a matching Equation Card, and a Description Card to create a unique set. There is also a student recording sheet.

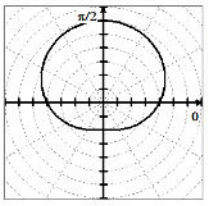
Teaching Suggestions:

- Use the set as a group activity for 2-4 per group
- Use the cards as a review activity prior to assessing students
- Have students work cooperatively in an open sort where they determine the groupings, similarities and differences.
- Assign a category or characteristic to student groups, have them share their findings with the class after a set amount of time.
- Issue only the equation cards and have students describe the graph
- Issue only the graph cards and have students write the equation.

You may be interested in purchasing the Review & Assessment Bundle for the Applications of Trigonometry Unit.

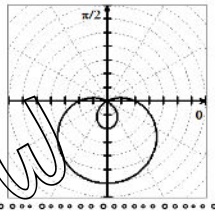
Please visit my store for more engaging task card activities.

G1



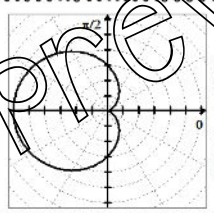
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G2



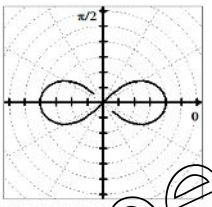
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G3



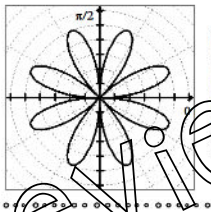
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G4



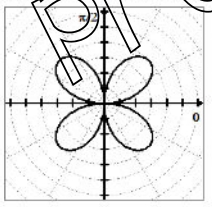
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G5



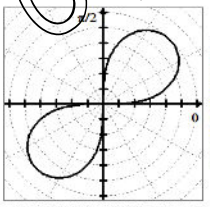
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G6



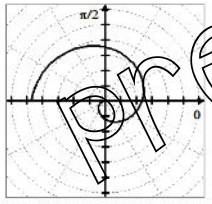
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G7



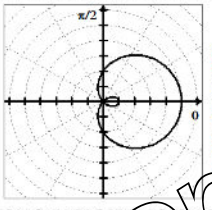
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G8



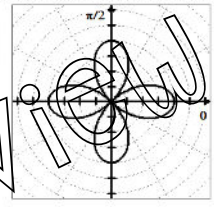
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G9



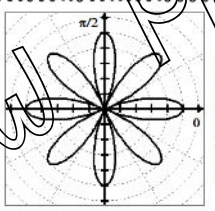
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G10



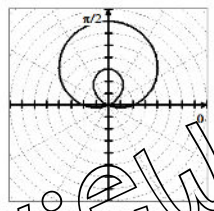
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G11



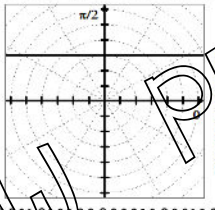
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G12



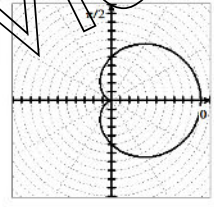
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G13



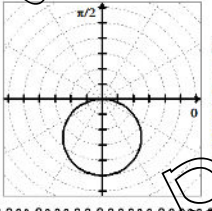
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G14



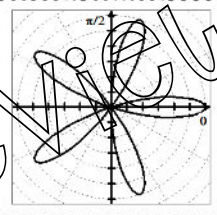
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G15



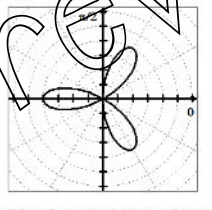
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G16



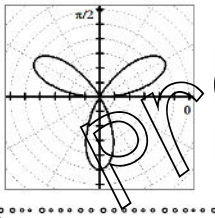
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G17



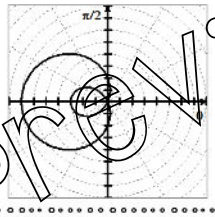
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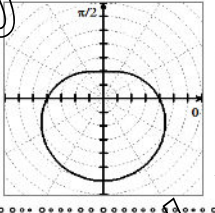
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G19



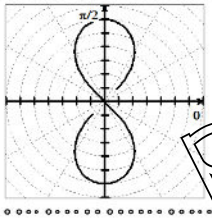
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G20



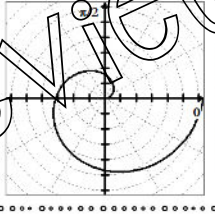
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G21



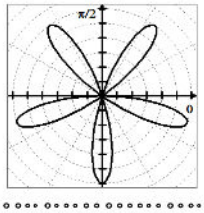
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G22



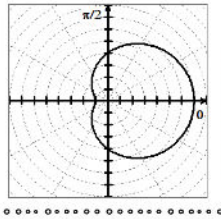
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G23



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G24



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D1

The graph of this odd petal rose curve has symmetry along the polar axis. The length of each petal is $a = 6$.

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D2

The rose curve has polar axis symmetry and n = 3 odd petals whose length $a = 4$.

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D3

This convex limaçon is symmetric with respect to the line $\theta = \frac{\pi}{2}$. The value for b is negative *and* $r\left(\frac{\pi}{2}\right) = 2$

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D4

The graph of this rose curve has 4 petals whose length is $a = 4$. There is symmetry about the pole (origin), the polar axis, and the line $\theta = \frac{\pi}{2}$.

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D5

The graph is a spiral. There is no symmetry. The spiral stops at $r(2\pi) = \frac{3\pi}{4}$.

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D6

This convex limaçon is symmetric with respect to the line $\theta = \frac{\pi}{2}$. When $\theta = 0$ or π; $r = 4$.. Also, $r\left(\frac{\pi}{2}\right) = 6$

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D7

The graph of this cardioid passes through the pole, has polar axis symmetry, and $r = 3$ when $\theta = \frac{\pi}{2}$ *and* $\frac{3\pi}{2}$.

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D8

The graph of this lemniscate has a petal whose length is $a = 6$. There is symmetry about the pole, the polar axis, and the line $\theta = \frac{\pi}{2}$.

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preview preview preview preview preview preview preview preview preview preview preview preview

D9

The graph of this polar curve is a circle with radius 2.5, and center at (0, -2.5) on the rectangular plane.

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D10

The graph of this lemniscate has a petal whose length is $a = 6$. There is symmetry about the pole (origin) only.

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D11

This polar graph has symmetry about the line $\theta = \frac{\pi}{2}$. It represents a constant function in the coordinate plane.

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D12

The graph of this lemniscate has a petal whose length is $a = 4$. There is symmetry about the pole (origin), the polar axis, and the line $\theta = \frac{\pi}{2}$.

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D13

This polar graph has symmetry about the pole (origin), the polar axis, and the line $\theta = \frac{\pi}{2}$. There are 8 petals with length $a = 5$.

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D14

This graph is a spiral. There is no symmetry. The spiral contains the points $(r, \theta) = (\pi, \pi)$.

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D15

This limaçon has an inner loop and is symmetric with respect to the line $\theta = \frac{\pi}{2}$. The point $(r, \theta) = \left(-2, \frac{\pi}{2}\right)$ is on the graph.

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D16

This rose cuve is symmetric with respect to the line $\theta = \frac{\pi}{2}$. The point $(r, \theta) = \left(6, \frac{3\pi}{2}\right)$ is on the graph.

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D17

The inner loop of this limaçon has length 1 and polar axis symmetry. The values for a and b are positive. When $\theta = 0, r = 5$.

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D18

This 8 petal rose curve has symmetry about the pole (origin), the polar axis, and the line $\theta = \frac{\pi}{2}$. Half of the petals lie along the axes.

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D19

This limaçon does not pass through the pole. The ratio $\frac{a}{b} = \frac{4}{3}$. There is polar axis symmetry. When $\theta = \pi, r = 1$.

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D20

The graph of this cardioid passes through the pole, has polar axis symmetry, and $r = 5$ when $\theta = \frac{\pi}{2}$ and $\frac{3\pi}{2}$.

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D21

The 4 petal rose curve has symmetry about the pole (origin), the polar axis, and the line $\theta = \frac{\pi}{2}$. Petals do not lie along the axes.

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D22

This limaçon has an inner loop of length 3, is symmetric with respect to the line $\theta = \frac{\pi}{2}$. The point $(r, \theta) = (2, \pi)$ is on the graph.

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D23

The length of each petal in this polar curve is $a = 5$. The line $\theta = \frac{\pi}{2}$ is the axis of symmetry and the graph passes through the pole 3 times.

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D24

This limaçon has an inner loop is symmetric with respect to the polar axis. The point $(r, \theta) = (-3, 0)$ is on the graph and $r(\pi) = 7$.

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E1

$r^2 = 36\sin(2\theta)$

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E2

$r = \frac{3}{\sin\theta}$

2018 © Flamingo Math™

E3

$r = 5\sin(3\theta)$

2018 © Flamingo Math™

E4

$r = 2 - 4\sin\theta$

2018 © Flamingo Math™

E5

$r = 2 + 3\cos\theta$

2018 © Flamingo Math™

E6

$r = 5\sin(4\theta)$

2018 © Flamingo Math™

E7

$r = -4\sin(2\theta)$

2018 © Flamingo Math™

E8

$r = 4 + 2\sin\theta$

2018 © Flamingo Math™

E9

$r = 5 + 5\cos\theta$

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E10

$r = 3 - 3\cos\theta$

2018 © Flamingo Math™

E11

$r = 4 - 2\sin\theta$

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E12

$r = \theta$

2018 © Flamingo Math™

E13

$r = 4\cos(2\theta)$

2018 © Flamingo Math™

E14

$r = 6\cos(5\theta)$

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E15

$r = 2 - 5\cos\theta$

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E16

$r = -0.75\theta$

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