Treasure Map

FAMILIES OF FUNCTIONS

SCAVENGER HUNT

IN CLASS SCAVENGER HUNT

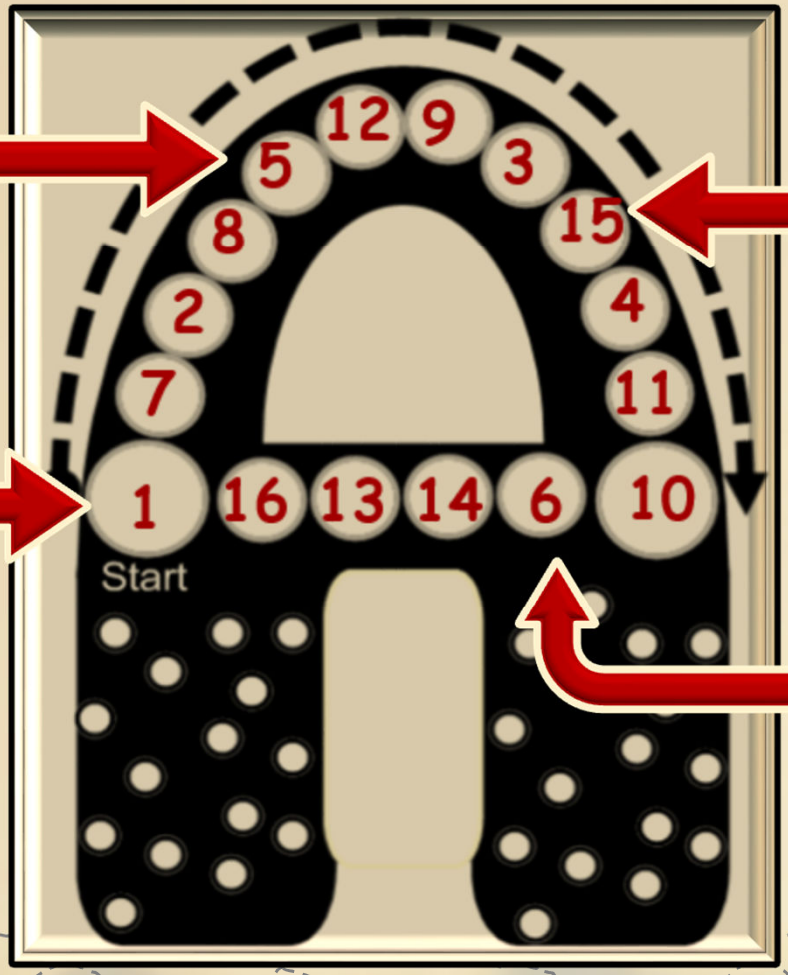
Directions:

1. Print out the cards and cut them (Laminate if possible for future uses). (You may print 1 card per page or 2 per page. I will suggest 1 per page to make it visible from far away)
2. Place the cards around the room (hang on the wall, board, door, window hallway, ... etc). (I usually put them in order around the room. Card 1 is at the window next to my right then I'll put the rest around in sequence of card numbers all the way to the door. Then, I place couple of the cards outside the door, then the rest go back in the room. I point out to students the location of the card 1 through the last card number). The order of the card numbers doesn't imply order of the answers.
3. Use the group generator (free product at my store) to split the class into groups of 2 or 3 students. (You may ask students to work individually as well).
4. When assigning starting point, utilize the Awesome Card as it has the correct sequence answer of the cards. This is how I do it:
   I usually assign card 1 to a group, then the 4th or 5th card number to another group, and so on (**See Diagram next page**). This way students won't be all at the same location working on the same card at once. (Sometimes it may happen that groups may catch up)
5. Every student (whether working alone or in groups) should receive a Recording Form to show their work and be able to discuss questions with groups members.
6. Every group should receive one “A”wesome Card to document their progress on the scavenger hunt with their starting card number. If students are working alone, then each student will receive their own “A”wesome cards with their starting card number.
7. Students (groups) will move to the card number assigned by teacher for their first question. Write the first card number in the "A"wesome card at the start place and follow the arrow.
8. Students will answer the question from the card into their "Scavenger Hunt Recording Form. Confirm their answers with group members, then, check (HUNT) the other cards as the answer is on a different card around the room (Labeled: Previous Answer).
9. Student will answer the question of the new card and repeat the process.

HOW TO ASSING STARTING POINT

Group 2
Starts Here

Group 3
Starts Here



Group 4
Starts Here

Group 1
Starts Here

SCAVENGER HUNT QUESTIONS

CARD 1

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = x^2$
Description of transformation	The parent function is translated 3 units up
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$g(x) = x + 3$

CARD 2

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Function f(x)	$f(x) = x^2 - 5x$
Description of transformation	The parent function is reflected across the x-axis
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$g(x) = |x - 3|$

CARD 3

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Function f(x)	$f(x) = 2x^2 - 3x + 1$
Description of transformation	Function is vertically stretched by factor of 3, horizontally shifted 1 to the left
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS

ANSWER

$$g(x) = 2x + 3$$

CARD 4

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = \|x\|$
Description of transformation	The parent function is reflected across y-axis,horizontal stretched by 1/3
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$g(x) = |x - 3| - 1$

CARD 5

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = x$
Description of transformation	The parent function is vertically stretched by a factor of 3, shifted right 2 units
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS

ANSWER

$$g(x) = (2x)^2 - 3$$

CARD 6

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = x^2$
Description of transformation	The parent function is translated 3 units right
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$$g(x) = |x| - 3$$

CARD 7

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = \|x\|$
Description of transformation	The parent function is translated 3 units right
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$$g(x) = x^2 + 3$$

CARD 8

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = x^2$
Description of transformation	The parent function is translated 3 units down, horizontally compressed by 1/2
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS

ANSWER

$$g(x) = -x^2 + 5x$$

CARD 9

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Function f(x)	$g(x) = x + 5$
Description of transformation	The parent function is translated 1 units right, horizontally compressed by 1/2
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS

ANSWER

$$g(x) = -|x|$$

CARD 10

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = \lvert x \rvert$
Description of transformation	The parent function is translated 3 units down
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$$g(x) = \frac{1}{3}x$$

CARD 11

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = x$
Description of transformation	The parent function is vertically compressed by a factor of 1/3
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$$g(x) = |-3x|$$

CARD 12

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = \|x\|$
Description of transformation	The parent function is reflected across the x-axis
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$g(x) = 3(x - 2)$

CARD13

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Function f(x)	$g(x) = x + 6$
Description of transformation	The parent function is translated 3 units up, vertically compressed by 1/2
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS

ANSWER

$$g(x) = x - 3$$

CARD 14

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = x$
Description of transformation	The parent function is translated 3 units down
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$$g(x) = (x-3)^2$$

CARD15

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$g(x) = \|x\|$
Description of transformation	The parent function is translated 1 units down, 3 units to the right
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$$g(x) = 3(2(x+1)^2 - 3(x+1) + 1)$$

CARD16

Given the parent function $f(x)$ below, use the description provided to write the new transformed function $g(x)$.

Parent Function $f(x)$	$f(x) = x$
Description of transformation	The parent function is translated 3 units up
Transformed function $g(x)$	$g(x) = ?$

PREVIOUS ANSWER

$$g(x) = \frac{1}{2}x + 6$$

RECORDING FORM & "A"WESOME CARD

FAMILIES OF FUNCTIONS

Name: _____ Period: _____ Date: _____

Scavenger Hunt Answers

CARD 1	CARD 2
CARD 3	CARD 4
CARD 5	CARD 6
CARD 7	CARD 8

Scavenger Hunt Answers

CARD 9	CARD 10
CARD 11	CARD 12
CARD 13	CARD 14
CARD 15	CARD 16

FAMILIES OF FUNCTIONS SCAVENGER HUNT

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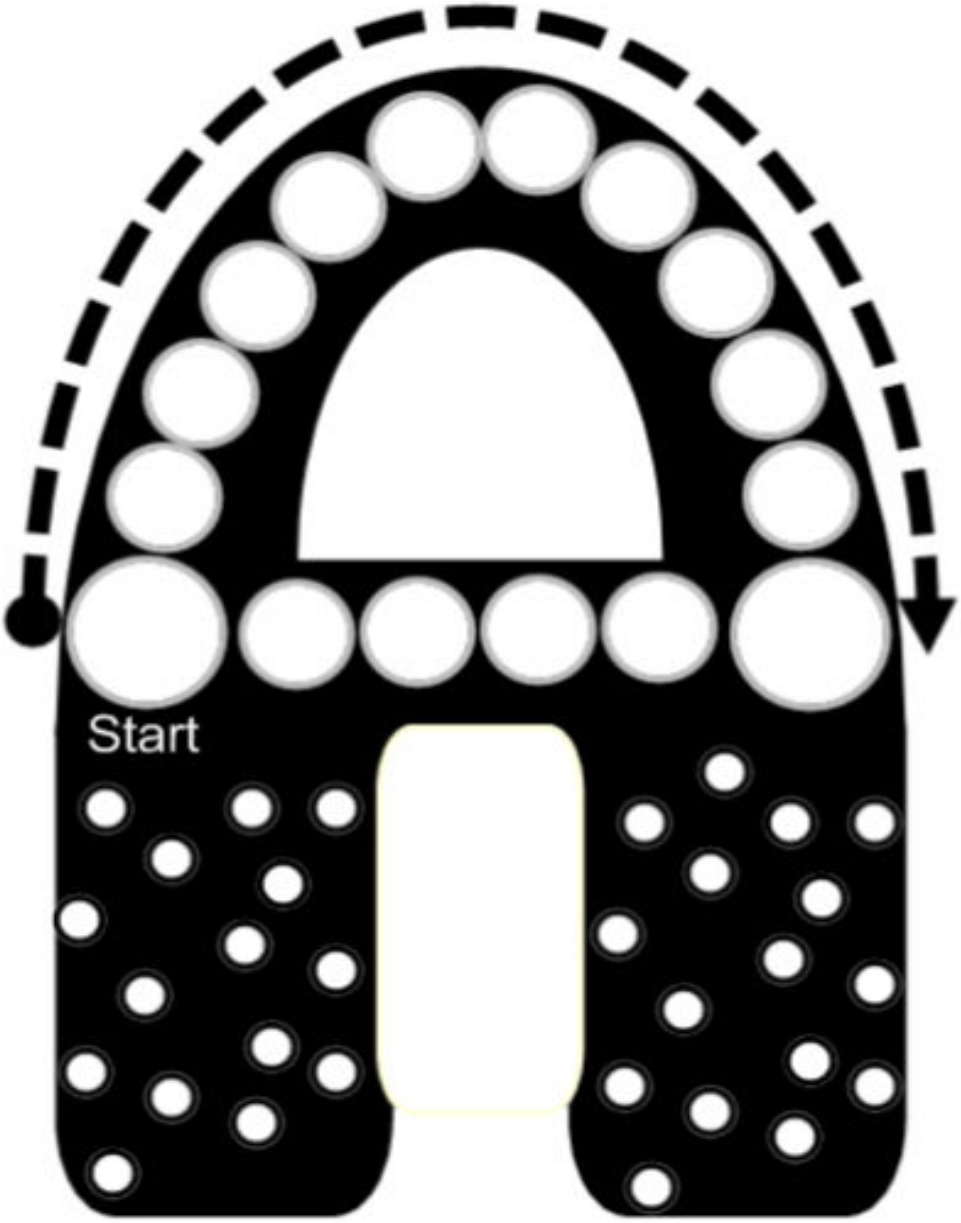

AWESOME JOB

FAMILIES OF FUNCTIONS SCAVENGER HUNT

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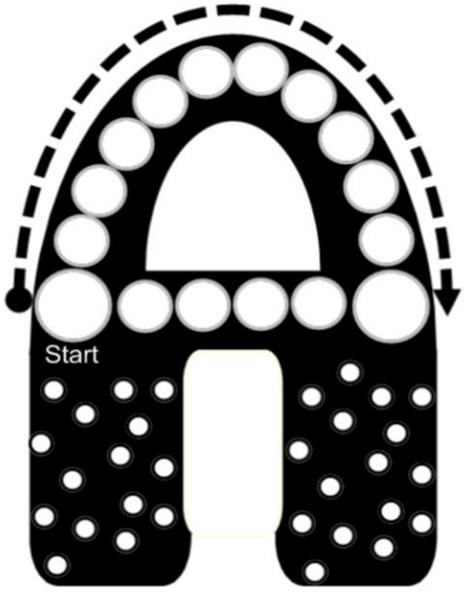

AWESOME JOB

FAMILIES OF FUNCTIONS SCAVENGER HUNT

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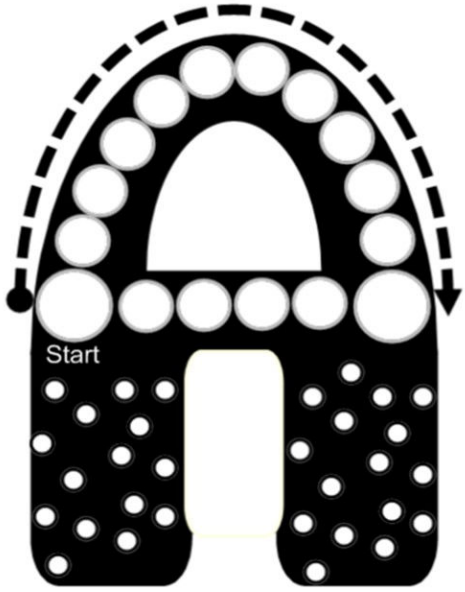

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FAMILIES OF FUNCTIONS SCAVENGER HUNT

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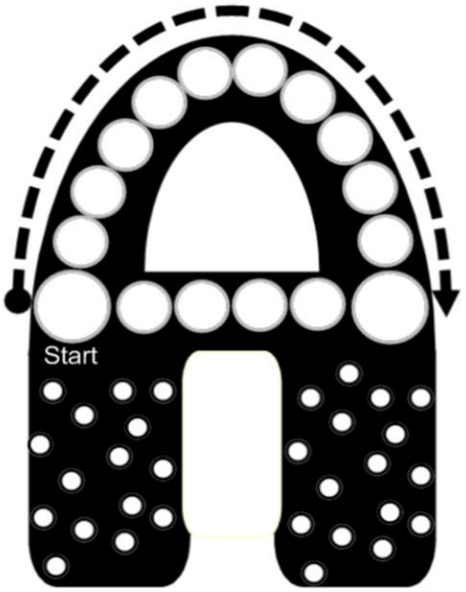

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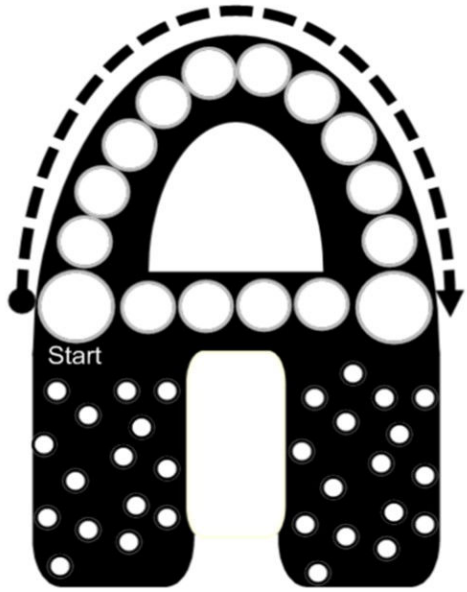

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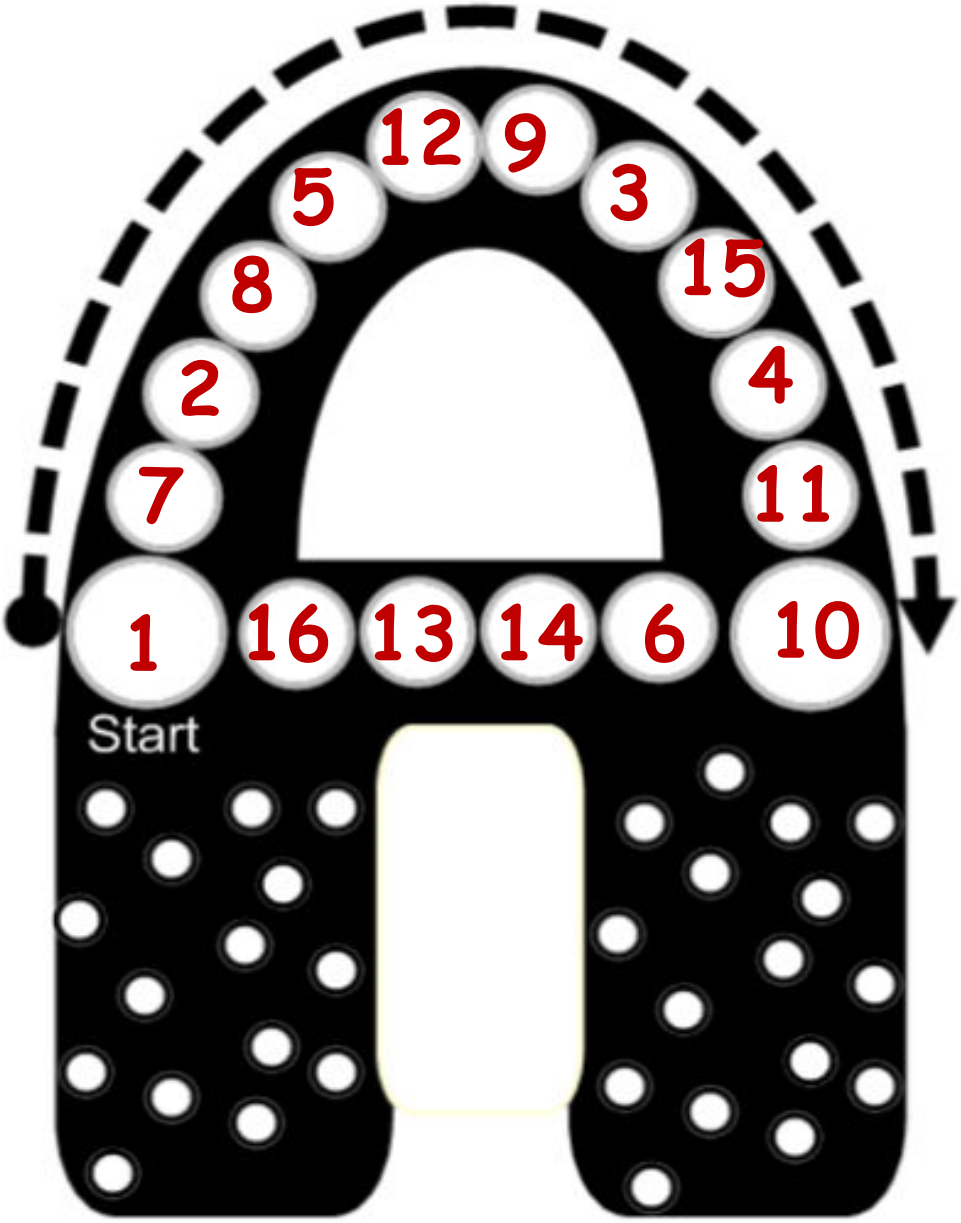
ANSWER KEY

FAMILIES OF FUNCTIONS SCAVENGER HUNT

Name: ANSWER KEY Period: _____ Date: _____



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FAMILIES OF FUNCTIONS

Name: **ANSWER KEY** Period: _____ Date: _____

Scavenger Hunt Answers

CARD 1 $g(x) = x^2 + 3$	**CARD 2** $g(x) = -\sqrt{x}$
CARD 3 $g(x) = \frac{1}{3}x^2$	**CARD 4** $g(x) = \lvert x + 3 \rvert$
CARD 5 $g(x) = 3x$	**CARD 6** $g(x) = (x - 3)^2$
CARD 7 $g(x) = \lvert x - 3 \rvert$	**CARD 8** $g(x) = (x + 3)^2$
CARD 9 $g(x) = \sqrt{x - 3}$	**CARD 10** $g(x) = \lvert x \rvert - 3$
CARD 11 $g(x) = \frac{1}{3}x$	**CARD 12** $g(x) = -\lvert x \rvert$
CARD 13 $g(x) = \sqrt{x + 3}$	**CARD 14** $g(x) = x - 3$
CARD 15 $g(x) = \sqrt{x} - 3$	**CARD 16** $g(x) = x + 3$

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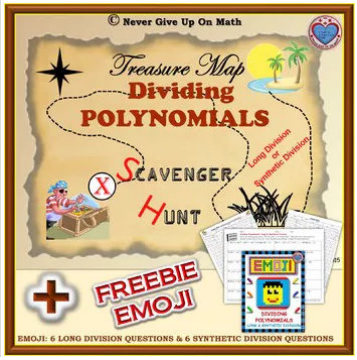

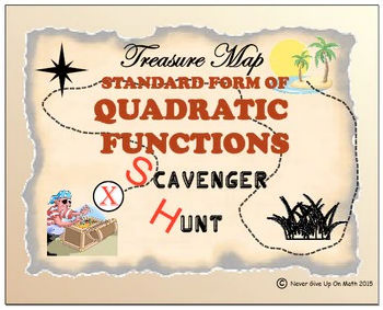

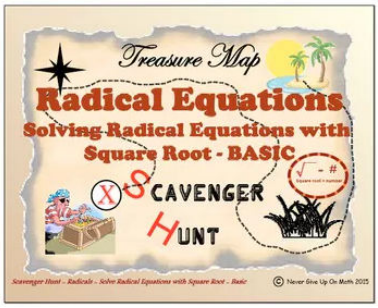

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