Solving Radical Equations Scavenger Hunt Game
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Math with Tyrrell

Materials Included
• Directions
• Teacher’s Key
• Student Worksheet
• Scavenger Hunt Problems

Teacher Preparation
1. Print teacher’s key and student worksheet (pages 4 - 6).
2. Make copies of the student worksheet for every student in your class.
3. Print the scavenger hunt problems (pages 7-36). The scavenger hunt problems must be printed double-sided (page 7 is printed on the back of page 8, etc.). You may have to manually print on both sides or you may have to use a duplex setting on the printer.
4. Fold the scavenger hunt problems on the dotted line.
5. Tape the scavenger hunt problems around the classroom making sure that students are able to reach them.

Getting Students Started
1. Pass out the student worksheets.
2. The first few times I do a scavenger hunt with a class I work through one scavenger hunt problem with the class. If possible, project the student worksheet on the SMART Board or document camera.
3. Students will start at a scavenger hunt problem by writing down the mathematician on the outside flap.
4. Students will then open the flap and write down the problem on the inside.
5. Students will find the answer to the problem on their worksheet.
6. Students will then search for the answer on the bottom of another scavenger hunt problem around the classroom. Students will write down the mathematician once they’ve found it and repeat the process.

\[ -3 = \sqrt{6x - 26} - x \]
\[ x = -340 \]

\[ \sqrt{54 + 3x} = x \]
\[ x = 5, 7 \]

7. Students will know that they are finished when they loop back around to the scavenger hunt problem they started with.

Example Student Worksheet:

I hope that you and your students enjoy the scavenger hunt game. If you ever have any questions, please let me know. I am always looking for ways to improve so please leave your feedback and rating. Thank you!

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**Scavenger Hunt Teacher Key**

Newton leads to Leibniz  
Leibniz leads to Euler  
Euler leads to Euclid  
Euclid leads to Abel  
Abel leads to Fibonacci  
Fibonacci leads to Gauss  
Gauss leads to Archimedes  
Archimedes leads to Riemann  
Riemann leads to Fermat  
Fermat leads to Hilbert  
Hilbert leads to Cantor  
Cantor leads to Pascal  
Pascal leads to Jacobi  
Jacobi leads to Hamilton  
Hamilton leads to Newton (go to top of page)

Students will be starting in different places for the scavenger hunt. To use this key, you must find where the student started and go from there.
Scavenger Hunt
Student Worksheet

Name: ________________________________
Date: ___________ Period: ________

1. _________________ leads to _________________
2. _________________ leads to _________________

3. _________________ leads to _________________
4. _________________ leads to _________________

5. _________________ leads to _________________
6. _________________ leads to _________________

7. _________________ leads to _________________
8. _________________ leads to _________________
9. __________________ leads to __________________

10. __________________ leads to __________________

11. __________________ leads to __________________

12. __________________ leads to __________________

13. __________________ leads to __________________

14. __________________ leads to __________________

15. __________________ leads to __________________

16. __________________ leads to ________________
Newton
1642 - 1727
Solve

\[-3 = \sqrt{6x - 26} - x\]

\[x = -340\]
Leibniz 1646-1716
Solve

\[ \sqrt{54 + 3x} = x \]

\[ x = 5, 7 \]
Euler
1707 - 1783
Solve

\[ \sqrt{\frac{x}{8}} + 6 = 4 \]

\[ x = 9 \]
Euclid
Around 300 BCE
Solve

$$\sqrt[4]{10 - x} = \sqrt[4]{x - 4}$$

No Solution
1802 – 1829
Abel
Solve

\[ 56 = 7\sqrt{x - 10} \]

\[ x = 7 \]
1170 - 1250

Fibonacci
Solve

\[ \sqrt[3]{-3 - x} = 1 \]

\[ x = 74 \]
Gauss

1777 - 1855
Solve

\[ \sqrt[5]{3x - 7} = \sqrt[5]{x + 3} \]

\[ x = -4 \]
287 BCE - 212 BCE
Archimedes
Solve

\[ \sqrt{-72 + 17x} = x \]

\[ x = 5 \]
Riemann
1826 – 1866
Solve

\[ x = 6 + \sqrt{4x - 28} \]

\[ x = 8, 9 \]
Fermat

1601 - 1665
Solve

\[ 8\sqrt{2x - 6} + 4 = 68 \]

\[ x = 8 \]
Hildebert

1862 - 1943
Solve

\[ \frac{100}{\sqrt{-1 - 11x}} = \frac{100}{\sqrt{2x + 12}} \]

\[ x = 35 \]
Cantor
1845 - 1918
Solve

\[ \sqrt{29 - 5x} = x - 1 \]

\[ x = -1 \]
Pascal
1623 – 1662
Solve

$$5^{\sqrt[3]{4x}} - 2 = 18$$

$$x = 4$$
Jacobi
1804 - 1851
Solve

\[\sqrt[3]{x} = 9\]

\[x = 16\]
1805 - 1865
Hamilton
Solve

\[ 10^5 \sqrt[4]{4 - 3x} = 40 \]

\[ x = 729 \]