# Rational OR Irrational?

-1/8

 $\sqrt{15}$ 

 $-10\pi$  100.22

 $-\frac{3}{16} \sqrt{144}$ 

### Rational or Irrational?!?!

#### Directions:

- Color all rational numbers blue
- Leave all irrational numbers white

Rationals include:

<u>Irrationals</u> include

	√7	$\sqrt{64}$	1/2	-7.165	$-\frac{\sqrt{7}}{7}$	$2\pi$ -2. $\bar{3}$	$\sqrt{100}$	0.5
3	3.712	11.24	$\sqrt{4}/_{2}$	-5.5	0 -π	π 8	1.333	<sup>3</sup> / <sub>11</sub>
(	0.75	$\sqrt{49}$	-10π	$\sqrt{4}$ $2\sqrt{3}$	-√5	$\sqrt{1.8}$	$6\pi^{-2/3}$	1.274.
	-1/4	10.2	$\sqrt{17}$ $\sqrt{13}$	-2π	$3\sqrt{1}$ $\sqrt{40}$	$\frac{1}{14\pi}$	$\sqrt{17}$	$\frac{0.2}{\pi/4}$
-2	$2\pi^{-2.\overline{1}}$	$\sqrt{25}$ $\sqrt{6}$	4.271	-55 √14	1.75 -4π	$\sqrt{\frac{-200}{11}}$	$\sqrt{2}\sqrt{9}$	$\sqrt{1/2}$
	7π -9	$\sqrt{2}$ $\sqrt{36}$	$\sqrt{3/4}$	$3/2\sqrt{5}$	$\sqrt{3}$	5π -√1	$\sqrt{\pi}$ 14.1	√ <u>11</u> π
3	3.999	7.165	$\frac{1}{2/5}$	$\sqrt{15}$	$0.\overline{3}$	3√8 -10	$\sqrt{1/6}$	-3π -1
1	11/2	$\sqrt{64}$	2.523	$\sqrt{10}$	3.128	$\sqrt{2}/2$	√8 -4.5	-7π
1	L,000	√8	- <sup>1</sup> / <sub>8</sub>	√225	6 π	-π -7	√ <del>169</del>	$\sqrt{1/4}$
	-3π	2.662	-0.25	1/4	-7.8 9π	$\sqrt{\pi}^{2/3}$	12.91	- <sup>1</sup> / <sub>2</sub>

Great
Practice!



with

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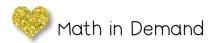






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# Teacher Notes

- Students will need a blue coloring pencil or marker (if you do not have a blue coloring pencil, then you can use a different color or have students shade in the boxes with their pencil).
- This activity works great individually or in pairs.
- I like to go over the difference between rationals and irrationals with students before they start coloring.
- The answer key is provided on page 5.
- As always, I appreciate it when you leave feedback!
- If you have any questions or would like me to make a custom worksheet for you, please email me at mathindemand@hotmail.com. Thanks so much!

# Rational or Irrational?!?!

### <u>Directions</u>:

- Color all rational numbers blue
- Leave all irrational numbers white

Rationals include:

<u>Irrationals include</u>:

1	-				_				
$\sqrt{7}$	$\sqrt{64}$	1/2	-7.165	$-\frac{\sqrt{7}}{7}$	$2\pi$ -2. $\overline{3}$	$\sqrt{100}$	0.5	-1/8	$\sqrt{15}$
3.712	7.284	$\sqrt{4}/_{2}$	-5.5	0 -π	$\pi$ 8	1.333	3/11	$-10\pi$	100.22
0.75	$\sqrt{49}$	-10π	$\sqrt{4}$ $2\sqrt{3}$	-√5	$\sqrt{1.8}$	$6\pi^{-2/3}$	1.274	- <sup>3</sup> / <sub>16</sub>	$\sqrt{144}$
-1/4	10.2	$-\frac{1}{7}$ $\sqrt{13}$	-2π	$3\sqrt{1}$ $\sqrt{40}$	$114\pi$	$\sqrt{17}$	$0.25 \\ \pi/4$	<sup>5</sup> / <sub>16</sub>	-4.5
$-2.\overline{1}$	$\sqrt{25}$ $\sqrt{6}$	4.271	-55 √14	1.75 -4π	$\sqrt{200}$	$ \begin{array}{c} 2\sqrt{9} \\ \sqrt{2} \end{array} $	$\sqrt{1/2}$	√81 π	2. <del>7</del> 7π
-7π -9	$\sqrt{2}$ $\sqrt{36}$	$\sqrt{3/4}$	$2\sqrt{5}$ $3/2$	$-\sqrt{9}$	$5\pi$	$\sqrt{\pi}$ 14.1	$\sqrt{11}\pi$	$4.517$ $\sqrt{16}$	$2\pi$ $\sqrt{81}$
3.999	7.165	$-\pi^{2/5}$	$\sqrt{15}$	$\pi$ 0. $\bar{3}$	$3\sqrt{8}$	$\sqrt{1/6}$	-3π -1	3/4	5.96
11/2	$\sqrt{64}$	2.523	$\sqrt{10}$	3.128	$\sqrt{2}/_{2}$	$\sqrt{8}$ -4.5	-7π	0.44	-3.999
1,000	$\sqrt{8}$	-1/8	$\sqrt{225}$	6 π	-π -7	$\sqrt{169}$	$\sqrt{1/4}$	$\sqrt{\pi}/_3$	0.325
-3π	2.662	-0.25	1/4	-7.8 9π	$\sqrt{\pi}^{2/3}$	12.91	- <sup>1</sup> / <sub>2</sub>	$\sqrt{121}$	$\sqrt{11}$

## Rational or Irrational?!?!

Answer Key

### <u>Directions</u>:

- Color all rational numbers blue
- Leave all irrational numbers white

#### Rationals include:

- Fractions such as  $^a\!/_b$  where a and b are integers
  - Terminating decimals
  - Repeating decimals
    - Perfect squares

#### <u>Irrationals include</u>:

- Non-terminating decimals and non-repeating
  - Non-perfect squares -Pi

$\sqrt{7}$	$\sqrt{64}$	1/2	-7.165	$\sqrt{7}$ $-2/7$	$2\pi$	$\sqrt{100}$	0.5	-1/8	$\sqrt{15}$
3.712	7.284	$\sqrt{4}/_{2}$	-5.5	0 -π	$\pi$ 8	1.333	3/11	-10π	100.22
0.75	$\sqrt{49}$	-10π	$\sqrt{4}$ $2\sqrt{3}$	-√5	$\sqrt{1.8}$	$\frac{-2}{3}$ $6\pi$	1.274	-3/16	$\sqrt{144}$
-1/4	10.2	$\sqrt{13}$	-2π	$3\sqrt{1}$ $\sqrt{40}$	$\begin{array}{c} 1 \\ 14\pi \end{array}$	$\sqrt{17}$	$\frac{0.25}{\pi/4}$	<sup>5</sup> / <sub>16</sub>	-4.5
$-2.\overline{1}$	$\sqrt{25}$ $\sqrt{6}$	4.271	<b>-55</b> √14	1.75 -4π	√200 √11	$\sqrt{2}$	$\sqrt{1/2}$	$\sqrt{81}$ $\pi$	2. <del>7</del> 7π
-7π -9	$\sqrt{2}$ $\sqrt{36}$	$\sqrt{3/4}$	$2\sqrt{5}$	$\sqrt{3}$	$5\pi$	$\sqrt{\pi}$ 14.1	$\sqrt{11}\pi$	$4.517$ $\sqrt{16}$	$2\pi$
3.999	7.165	$-\pi$ $\frac{2}{5}$	$\sqrt{15}$	$\pi$ 0. $\bar{3}$	$3\sqrt{8}$	$\sqrt{1/6}$	-3π -1	3/4	5.96
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1,000	$\sqrt{8}$	-1/8	$\sqrt{225}$	6 π	-π -7	$\sqrt{169}$	$\sqrt{1/4}$	$\sqrt{\pi}/_3$	0.325
-3π	2.662	-0.25	1/4	<b>-7.8</b> 9π	$\sqrt{\pi}^{2/3}$	12.91	-1/2	$\sqrt{121}$	$\sqrt{11}$

### Recommendations

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