

January 13, 2015

1.1
#20) $0.\overline{882}$

a.) Let $x = 0.\overline{882}$

b.) $1000x = 882.\overline{882}$

c.) $1000x = 882.\overline{882}$
 $x = 0.\overline{882}$

$$\frac{999x = 882}{999} = \frac{882}{999}$$

$$x = \frac{882}{999} = \frac{294}{333} = \frac{98}{111}$$

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#28)

	N	W	Z	Q	R
$\frac{10}{2}$?	?	?	✓	✓
π					✓
-6			✓	✓	✓
$\sqrt{2}$					✓
0.37				✓	✓
$0.\overline{9}$				✓	✓

$\pi \approx 3.14159\dots$

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Proof

* Prove that $\sqrt{7}$ is irrational

Proof by Contradiction

① Assume $\sqrt{7}$ Rational

$$(\sqrt{7})^2 = \left(\frac{m}{n}\right)^2$$

$n^2 \left(7 = \frac{m^2}{n^2}\right)$ Clear the eq. by multiplying the LCD (n^2) through the eq.

$$7n^2 = m^2$$

$7 \cdot n \cdot n = m \cdot m$

* Prime Factorization

a Contradiction!

So, $\sqrt{7}$ is irrational

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Set Notation

write all number greater than -2.

① Set-Builder Notation

$$\{x \mid \text{such that what?}\}$$

⋮
such that

$$\{x \mid x > -2\}$$

* Read 1.3 COR

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