

Name: _____

April 8, 2015

Approximating Square Roots

① $\sqrt{64}$ $\sqrt{67}$ $\sqrt{81}$
 Part 3
 total 17

$\approx 8 \frac{3}{17}$

≈ 8.18

$$\begin{array}{r} 8.18 \\ \times 8.18 \\ \hline 66.9 \end{array}$$

② $\sqrt{64}$ $\sqrt{74}$ $\sqrt{81}$
 10
 17

$8 \frac{10}{17} \approx 8.59$

$$\begin{array}{r} 8.59 \\ \times 8.59 \\ \hline 73.78 \end{array}$$

③ $\sqrt{81}$ $\sqrt{95}$ $\sqrt{100}$
 14
 19

$9 \frac{14}{19} \approx 9.74$

$$\begin{array}{r} 9.74 \\ \times 9.74 \\ \hline 94.86 \end{array}$$

④ $\sqrt{16}$ $\sqrt{18}$ $\sqrt{25}$
 2
 9

$4 \frac{2}{9} \approx 4.22$

$$\begin{array}{r} 4.22 \\ \times 4.22 \\ \hline 17.8 \end{array}$$

⑤ $\sqrt{49}$ $\sqrt{51}$ $\sqrt{64}$
 2
 15

$7 \frac{2}{15} \approx 7.13$

$$\begin{array}{r} 7.13 \\ \times 7.13 \\ \hline 50.83 \end{array}$$

⑥ $\sqrt{81}$ $\sqrt{83}$ $\sqrt{100}$
 2
 19

$9 \frac{2}{19} \approx 9.1$

$$\begin{array}{r} 9.1 \\ \times 9.1 \\ \hline 82.8 \end{array}$$

⑦ $\sqrt{100}$ $\sqrt{120}$ $\sqrt{121}$
 20
 21

$10 \frac{20}{21} \approx 10.95$

$$\begin{array}{r} 10.95 \\ \times 10.95 \\ \hline 119.9 \end{array}$$

⑧ $\sqrt{4}$ $\sqrt{8}$ $\sqrt{9}$
 4
 5

$2 \frac{4}{5} \approx 2.8$

$$\begin{array}{r} 2.8 \\ \times 2.8 \\ \hline 7.84 \end{array}$$

⑨ $\sqrt{9}$ $\sqrt{12}$ $\sqrt{16}$
 3
 7

$3 \frac{3}{7} \approx 3.43$

$$\begin{array}{r} 3.43 \\ \times 3.43 \\ \hline 11.7 \end{array}$$

① $3\sqrt{81} + 2 \times 7$
 $3(9) + 14$
 $27 + 14$
41

② $\sqrt[3]{8}$
 2

③ $\sqrt[3]{64}$
 4

④ $\sqrt[8]{79}$
 $\frac{\sqrt[8]{64}}{17} \sqrt[8]{79} \frac{\sqrt[8]{81}}{17}$
 $8 \frac{15}{17} \approx 8.88$

⑤ $4\sqrt{100} - 4\sqrt{25}$
 $4(10) - 4(5)$
 $40 - 20$
20

⑥ $\sqrt[4]{13}$
 $\frac{\sqrt[4]{9}}{7} \sqrt[4]{13} \frac{\sqrt[4]{16}}{7}$
 $3 \frac{4}{7} \approx 3.57$

⑦ $\sqrt[10]{140}$
 $\frac{\sqrt[10]{121}}{23} \sqrt[10]{140} \frac{\sqrt[10]{144}}{23}$
 $11 \frac{19}{23} \approx 11.83$

⑧ $\sqrt[9]{90}$
 $\frac{\sqrt[9]{81}}{19} \sqrt[9]{90} \frac{\sqrt[9]{100}}{19}$
 $9 \frac{9}{19} \approx 9.47$

⑨ $\sqrt[7]{23}$
 $\frac{\sqrt[7]{16}}{9} \sqrt[7]{23} \frac{\sqrt[7]{25}}{9}$
 $4 \frac{7}{9} \approx 4.77$

SORTING:

5 $-\frac{1}{2}$ 0
 π $-4.72938\dots$ $\frac{19}{100}$
 $.040404$ $.0003$ $-7\frac{1}{2}$

Rational	Irrational
5	π
$-\frac{1}{2}$	$-4.72938\dots$
$-7\frac{1}{2}$	
$\frac{19}{100}$	
$.040404$	
$.0003$	