

Math 105 TOPICS IN MATHEMATICS

SOLUTION FOR QUIZ – V (03/02)

March 6 (Fri), 2015

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Line #: 52920.

- [I] (20pts) Hand calculate the decimal expression of each of (a) $\sqrt{7}$, and (b) $\sqrt{2\pi}$, up to the fourth place under the decimal point.

No credit if you just give answers. You must complete the worksheet below.

(a)

2	.	6		4		5		7	...
√	7	.	0	0	0	0	0	0	0
4									
3	0	0							
2	7	6							
2	4	0	0						
2	0	9	6						
3	0	4	0	0					
2	6	4	2	5					
3	9	7	5	0	0				
3	7	0	3	4	9				
2	7	1	5	1					

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([I] continued)

★ As for (b) below, note $2\pi = 6.28318530\dots$

(b)

$$\begin{array}{r}
 \boxed{2} \cdot \boxed{5} \quad \boxed{0} \quad \boxed{6} \quad \boxed{6} \dots \\
 \hline
 \sqrt{\quad \boxed{6} \cdot \boxed{2} \quad \boxed{8} \quad \boxed{3} \quad \boxed{1} \quad \boxed{8} \quad \boxed{5} \quad \boxed{3} \quad \boxed{0}} \\
 \boxed{4} \\
 \hline
 \begin{array}{r}
 \boxed{2} \quad \boxed{2} \quad \boxed{8} \\
 \boxed{2} \quad \boxed{2} \quad \boxed{5} \\
 \hline
 \end{array} \\
 \begin{array}{r}
 \boxed{3} \quad \boxed{3} \quad \boxed{1} \\
 \boxed{0} \\
 \hline
 \end{array} \\
 \begin{array}{r}
 \boxed{3} \quad \boxed{3} \quad \boxed{1} \quad \boxed{8} \quad \boxed{5} \\
 \boxed{3} \quad \boxed{0} \quad \boxed{0} \quad \boxed{3} \quad \boxed{6} \\
 \hline
 \end{array} \\
 \begin{array}{r}
 \boxed{3} \quad \boxed{1} \quad \boxed{4} \quad \boxed{9} \quad \boxed{3} \quad \boxed{0} \\
 \boxed{3} \quad \boxed{0} \quad \boxed{0} \quad \boxed{7} \quad \boxed{5} \quad \boxed{6} \\
 \hline
 \end{array} \\
 \begin{array}{r}
 \boxed{1} \quad \boxed{4} \quad \boxed{1} \quad \boxed{9} \quad \boxed{4}
 \end{array}
 \end{array}$$

[Answers]: (a) $\sqrt{7} = \boxed{2} \cdot \boxed{6} \boxed{4} \boxed{5} \boxed{7} \dots$

(b) $\sqrt{2\pi} = \boxed{2} \cdot \boxed{5} \boxed{0} \boxed{6} \boxed{6} \dots$