№1

① $\frac{2002}{115} = 17 + \frac{47}{115} = 17 + \frac{1}{2 + \frac{21}{47}} = 17 + \frac{1}{2 + \frac{1}{1 + \frac{5}{21}}} =$

$= 17 + \frac{1}{2 + \frac{1}{2 + \frac{1}{4 + \frac{1}{5}}}} = [17; 2, 2, 4, 5]$

Ответ: [17; 2, 2, 4, 5]

② $\frac{2002}{115} =$

$= [17; 2, 2, 4, 5]$

2002 | 115
−1955 | 17
115 | 47
−94 | 2
47 | 21
−42 | 2
21 | 5
−20 | 4
5 | 1
−5 | 5
0

№2

$\{\sqrt{115}\} = \sqrt{115} - 10$

$$\sqrt{115} = 10 + \{\sqrt{115}\} = 10 + \frac{1}{\frac{1}{\{\sqrt{115}\}}} = 10 + \frac{1}{\frac{\sqrt{115}+10}{15}} =$$

$$= 10 + \frac{1}{\frac{10+\{\sqrt{115}\}+10}{15}} = 10 + \frac{1}{\frac{20+\{\sqrt{115}\}}{15}} = 10 + \frac{1}{1+\frac{5+\{\sqrt{115}\}}{15}} =$$

$$= 10 + \frac{1}{1+\frac{1}{\frac{15}{5+\{\sqrt{115}\}}}} = 10 + \frac{1}{1+\frac{1}{\frac{115\cdot(\sqrt{115}+5)}{90}}} = 10 + \frac{1}{1+\frac{1}{\frac{10+\{\sqrt{115}\}+5}{6}}} =$$

$$= 10 + \frac{1}{1+\frac{1}{2+\frac{3+\{\sqrt{115}\}}{6}}} = 10 + \frac{1}{1+\frac{1}{2+\frac{1}{\frac{6}{3+\{\sqrt{115}\}}}}} = 10 + \frac{1}{1+\frac{1}{2+\frac{1}{\frac{66\cdot(\sqrt{115}+7)}{66}}}} =$$

$$= 10 + \frac{1}{1+\frac{1}{2+\frac{1}{17+\{\sqrt{115}\}}}} = 10 + \frac{1}{1+\frac{1}{2+\frac{1}{1+\frac{1}{\frac{11}{6+\{\sqrt{115}\}}}}}} = 10 + \frac{1}{1+\frac{1}{2+\frac{1}{1+\frac{1}{\frac{99\cdot(\sqrt{115}+4)}{99}}}}} =$$

$$= 10 + \frac{1}{1+\frac{1}{2+\frac{1}{1+\frac{1}{\frac{9}{5+\{\sqrt{115}\}}}}}} = 10 + \frac{1}{1+\frac{1}{2+\frac{1}{1+\frac{1}{\frac{90\cdot(\sqrt{115}+5)}{90}}}}} = 10 + \frac{1}{1+\frac{1}{2+\frac{1}{1+\frac{1}{1+\frac{1}{\frac{10}{5+\{\sqrt{115}\}}}}}}}$$

Ответ: $[10; 1, 2, 1, 1, 1 \ldots]$