

Surds

$${}^n\sqrt{a} = a^{\frac{1}{n}}$$

$$\left({}^n\sqrt{a}\right)^n = a$$

$${}^n\sqrt{a} \times {}^n\sqrt{b} = {}^n\sqrt{ab}$$

$${}^n\sqrt{a} \div {}^n\sqrt{b} = {}^n\sqrt{\frac{a}{b}}$$

Q: 1

$$\sqrt{3\sqrt{3\sqrt{3}\dots\infty}} = ?$$

1. 3

2. $3^{\frac{7}{8}}$

3. $\sqrt{3}$

4. CND

Q: 2

$$\sqrt{7\sqrt{7\sqrt{7}}} = ?$$

1. 7

2. $7^{\frac{7}{8}}$

3. $\sqrt{7}$

4. CND

Q: 3

$$\sqrt{6 + \sqrt{6 + \sqrt{6} \dots \infty}} = ?$$

1. 2

2. 3

3. $\sqrt{6}$

4. CND

Q: 4

$$\sqrt{12 - \sqrt{12 - \sqrt{12 - \sqrt{12 \dots \infty}}}} = ?$$

1. 4

2. 3

3. $\sqrt{7}$

4. CND



Q: 5

$$\sqrt{7 + \sqrt{7 + \sqrt{7 + \sqrt{7} \dots \infty}}} = ?$$

1. $\frac{\sqrt{29}+1}{2}$

2. $\frac{\sqrt{29}-1}{2}$

3. $\frac{\sqrt{27}+1}{2}$

4. $\frac{\sqrt{27}-1}{2}$

Q: 6

$$\sqrt{3 - \sqrt{3 - \sqrt{3 - \sqrt{3} \dots \infty}}} = ?$$

1. $\frac{\sqrt{13}+1}{2}$

2. $\frac{\sqrt{13}-1}{2}$

3. $\frac{\sqrt{11}+1}{2}$

4. $\frac{\sqrt{11}-1}{2}$

Q: 7

If $x = \sqrt{13 + \sqrt{13 + \sqrt{13 + \sqrt{13 \dots \infty}}}}$, $y = \sqrt{13 - \sqrt{13 - \sqrt{13 - \sqrt{13 \dots \infty}}}}$,
then $x - y = ?$

1. $\sqrt{29}$

2. $\sqrt{29} + 1$

3. 1

4. NOT

Q: 8

$$\sqrt{6 + 4\sqrt{2}} = ?$$

1. 2

2. $2 + \sqrt{2}$

3. $\sqrt{2}$

4. CND



Q: 9

$$\sqrt{12 - 8\sqrt{2}} = ?$$

1. 4

2. $4 - \sqrt{2}$

3. $2 - 2\sqrt{2}$

4. CND



Q: 10

$$\frac{1}{\sqrt{5}-\sqrt{3}} - \frac{1}{\sqrt{5}+\sqrt{3}} = ?$$

1. 2

2. $2\sqrt{5}$

3. $2\sqrt{3}$

4. $\sqrt{3}$



Q: 11

$$\sqrt{3 \sqrt[3]{9 \sqrt{3 \sqrt[3]{9 \dots \dots \infty}}}} =$$

1. 3

2. 9

3. $\sqrt{3}$

4. $9\sqrt{3}$