# RD SHARMA

# Solutions

# Class 8 Maths

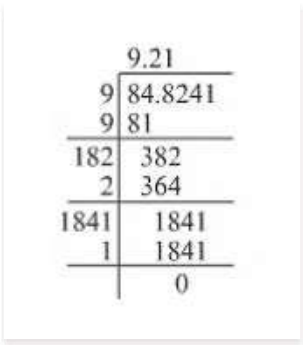
# Chapter 3

# Ex 3.7

**Find the square root of the following numbers in the decimal form:**

**1.) 84.8241**

**Answer:**

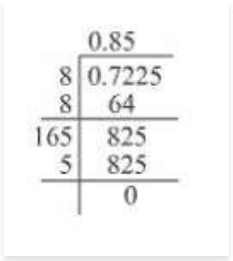


| | |
|---|---|
| | 9.21 |
| 9 | 84.8241 |
| 9 | 81 |
| 182 | 382 |
| 2 | 364 |
| 1841 | 1841 |
| 1 | 1841 |
| | 0 |

Hence, the square root of 84.821 is 9.21.

**2.) 0.7225**

**Answer:**

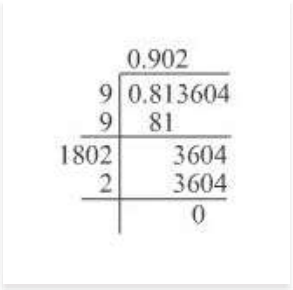


| | |
|---|---|
| | 0.85 |
| 8 | 0.7225 |
| 8 | 64 |
| 165 | 825 |
| 5 | 825 |
| | 0 |

Hence, the square root of 0.7225 is 0.85.

**3.) 0.813604**

**Answer:**

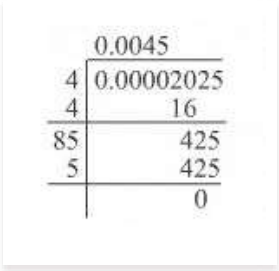


| | |
|---|---|
| | 0.902 |
| 9 | 0.813604 |
| 9 | 81 |
| 1802 | 3604 |
| 2 | 3604 |
| | 0 |

Hence, the square root of 0813604 is 0.902

**4.) 0.00002025**

**Answer:**

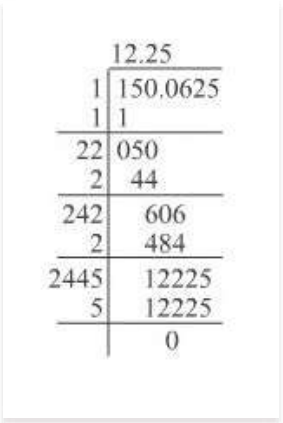


| | |
|---|---|
| | 0.0045 |
| 4 | 0.00002025 |
| 4 | 16 |
| 85 | 425 |
| 5 | 425 |
| | 0 |

Hence, the square root of 0.00002025 is 0.0045.

**5.) 150.0625**

**Answer:**

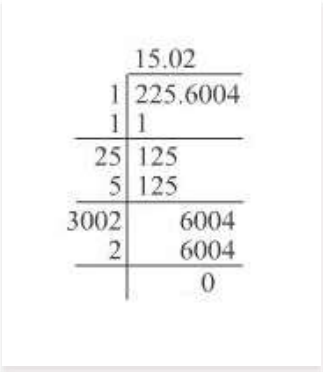


| | |
|---|---|
| | 12.25 |
| 1 | 150.0625 |
| 1 | 1 |
| 22 | 050 |
| 2 | 44 |
| 242 | 606 |
| 2 | 484 |
| 2445 | 12225 |
| 5 | 12225 |
| | 0 |

Hence, the square root of 150.0625 is 12.25

**6.) 225.6004**

Answer:

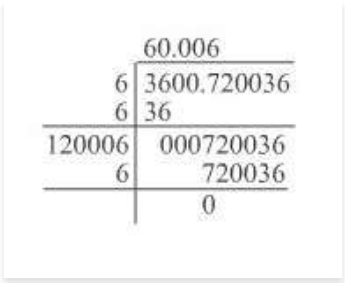


| | |
|---|---|
| | 15.02 |
| 1 | 225.6004 |
| 1 | 1 |
| 25 | 125 |
| 5 | 125 |
| 3002 | 6004 |
| 2 | 6004 |
| | 0 |

Hence, the square root of 225.6004 is 15.02

**7.) 3600.720036**

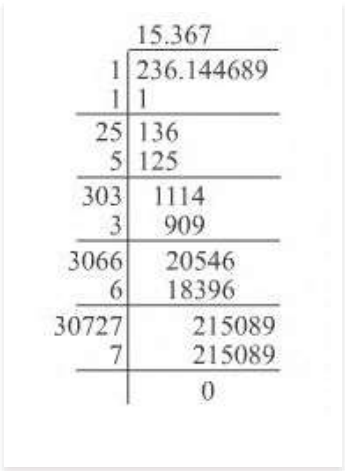
**Answer:**




Hence, the square root of 3600.720036 is 60.006

**8.) 236.144689**

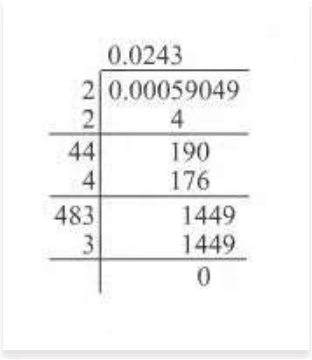
**Answer:**




Hence, the square root of 236.144869 is 15.367 .

**9.).00059049**

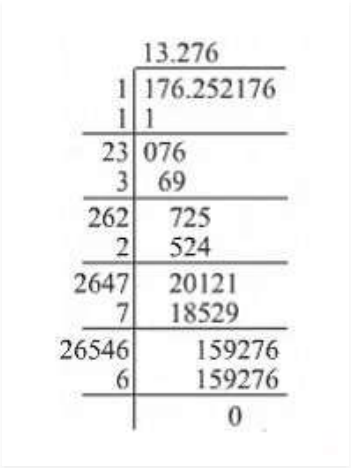
**Answer:**




Hence, the square of 0.0059049 is 0.0243

**10.) 176.252176**

**Answer:**

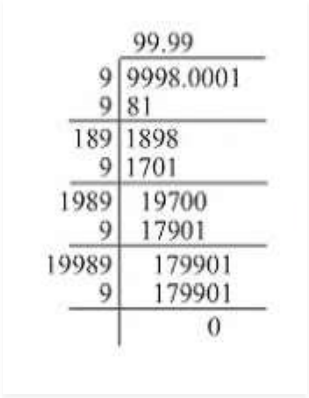


| | |
|---|---|
| | 13.276 |
| 1 | 176.252176 |
| 1 | 1 |
| 23 | 076 |
| 3 | 69 |
| 262 | 725 |
| 2 | 524 |
| 2647 | 20121 |
| 7 | 18529 |
| 26546 | 159276 |
| 6 | 159276 |
| | 0 |

Hence, the square root of 176.252176 is 13.276

**11.) 9998.0001**

**Answer:**

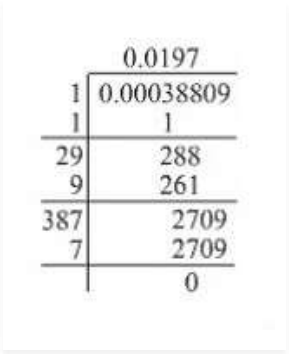


| | |
|---|---|
| | 99.99 |
| 9 | 9998.0001 |
| 9 | 81 |
| 189 | 1898 |
| 9 | 1701 |
| 1989 | 19700 |
| 9 | 17901 |
| 19989 | 179901 |
| 9 | 179901 |
| | 0 |

Hence, the square root of 9998.0001 is 99.99.

**12.) 0.00038809**

**Answer:**



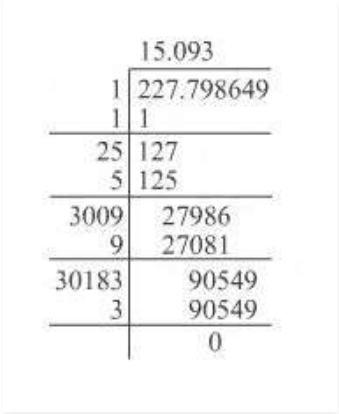
| | 0.0197 |
|---|---|
| 1 | 0.00038809 |
| 1 | 1 |
| 29 | 288 |
| 9 | 261 |
| 387 | 2709 |
| 7 | 2709 |
| | 0 |

Hence, the square root of 0.00038809 is 0.0197.

**13.) What is that fraction which when multiplied by itself gives 227.798649?**

**Answer:**

We have to find the square root of the given number:



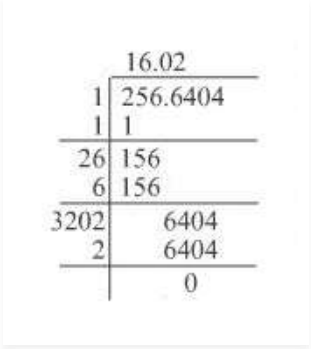
| | 15.093 |
|---|---|
| 1 | 227.798649 |
| 1 | 1 |
| 25 | 127 |
| 5 | 125 |
| 3009 | 27986 |
| 9 | 27081 |
| 30183 | 90549 |
| 3 | 90549 |
| | 0 |

Hence, the fraction, which when multiplied by itself, gives 227.798649 is 15.093.

**14.) The area of a square playground is 256.6404 square meters. Find the length of one side of the playground.**

**Answer:**

The length of one side of the playground is the square root of its area.



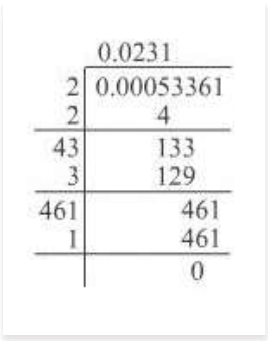
| | 16.02 |
|---|---|
| 1 | 256.6404 |
| 1 | 1 |
| 26 | 156 |
| 6 | 156 |
| 3202 | 6404 |
| 2 | 6404 |
| | 0 |

So, the length of one side of the playground is 16.02 meters.

**15.) What is the fraction which when multiplied by itself gives 0.00053361?**

**Answer:**

We have to find the square root of the given number:



| | 0.0231 |
|---|---|
| 2 | 0.00053361 |
| 2 | 4 |
| 43 | 133 |
| 3 | 129 |
| 461 | 461 |
| 1 | 461 |
| | 0 |

Hence, the fraction, which when multiplied by itself, gives 0.00053361 is 0.0231.

**16.) Simplify:**

**(i)** $\frac{\sqrt{59.29}-\sqrt{5.29}}{\sqrt{59.29}+\sqrt{5.29}}$

**(ii)** $\frac{\sqrt{0.2304}+\sqrt{0.1764}}{\sqrt{0.2304}-\sqrt{0.1764}}$

**Answer:**

**(i)** We have:

$\sqrt{59.29} = \sqrt{\frac{5929}{100}} = \frac{\sqrt{7\times7\times11\times11}}{10} = \frac{7\times11}{10} = 7.7$ $\sqrt{5.29} = \sqrt{\frac{592}{100}} = \frac{\sqrt{529}}{\sqrt{100}} = \frac{23}{10} = 2.3$ $\frac{\sqrt{59.29}-\sqrt{5.29}}{\sqrt{59.29}+\sqrt{5.29}} = \frac{7.7-2.3}{7.7+2.3} = \frac{5.4}{10} = .54$

**(ii)** We have:

$\sqrt{0.2304} = \sqrt{\frac{2304}{10000}}$

$= \frac{\sqrt{2\times2\times2\times2\times2\times2\times2\times3\times3}}{\sqrt{10000}}$

$= \frac{2\times2\times2\times2\times3}{100} = 0.42$

$\frac{\sqrt{0.2304}+\sqrt{0.1764}}{\sqrt{0.2304}-\sqrt{0.1764}} = \frac{0.48+0.42}{0.48-0.42} = \frac{0.9}{0.06} = 15$

**17.) Evaluate $\sqrt{50625}$ and hence find the value of $\sqrt{506.25} + \sqrt{5.0625}$**

**Answer:**

We have:

$\sqrt{50625} = \sqrt{3\times3\times3\times3\times5\times5\times5\times5\times5} = 3\times3\times\times5\times5 = 225$

Next, we calculate $\sqrt{506.25}$ and $\sqrt{5.0625}$

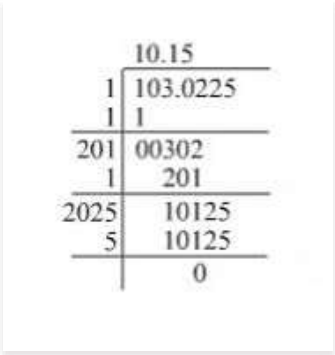
$\sqrt{506.25} = \sqrt{\frac{50625}{100}} = \frac{\sqrt{52625}}{\sqrt{100}} = \frac{225}{10} = 22.5$ $\sqrt{5.0625} = \sqrt{\frac{50625}{10000}} = \frac{\sqrt{52625}}{\sqrt{10000}} = \frac{225}{100} = 2.25$ $\sqrt{506.25} + \sqrt{5.0625} = 22.5 + 2.25 = 24.75$

**18.) Find the value of $\sqrt{103.0225}$ and hence find the value of:**

**(i)** $\sqrt{10302.25}$

**(ii)** $\sqrt{1.030225}$

**Answer:**



| | 10.15 |
|---|---|
| 1 | 103.0225 |
| 1 | 1 |
| 201 | 00302 |
| 1 | 201 |
| 2025 | 10125 |
| 5 | 10125 |
| | 0 |

The value of 103.0225 is:

Hence, the square root of 103.0225 is 10.15

Now, we can solve the following questions as shown below:

**(i)** $\sqrt{10302.25} = \sqrt{103.0225 \times 100} = \sqrt{103.0225} \times \sqrt{100} = 10.15 \times 10 = 101.5$.

**(ii)** $\sqrt{1.030225} = \sqrt{\frac{103.0225}{100}} = \frac{\sqrt{103.0225}}{\sqrt{100}} = \frac{10.15}{10} = 1.015$