**Answers:**

**Part A:** Find the value of the following.

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| 1) | 2) |
| 3) | 4) |

**Part B:** Find two consecutive integers between lies.

Solution:

The radicand is 45.

The closest perfect square number

less than 46 is 36.

The closest perfect square number

greater than 46 is 49.

The square root of is between 6 and 7.

**Part C:** Determine two rational numbers with two decimal places between which lies.

Solution:

Since 45 is between 36 and 49, must be between and

By estimation, we have:

**So, lies between 6.7 and 6.8.**

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To find the two rational numbers with two decimal places between which lies, let’s estimate further:

**So, lies between 6.78 and 6.79.**

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The square root of is between

6.78 and 6.79.

**Part D:** Approximate up to the third estimate by averaging.

Solution:

Since 46 is between 46 and 49, must be between and

Step 1: The integer closest to is 7.

The first estimate is 7.

Step 2: Divide the radicand by the first estimate.

Step 3: To find the second estimate, find the average of the quotient in Step 2 and the first estimate.

The second estimate is 6.785.

Step 4: Repeat Step 2. But this time, divide the radicand by the second estimate.

Step 5: To find the third estimate, repeat Step 3. This time, find the average of the quotient in Step 4 and the second estimate.

The closest approximate of is 6.7825.