

Practice Problems for Numbers
from www.topmath.info

1 (T/F): The square root of 16 is a rational number.

2 (T/F): The number $51.75755755575555\dots$ is irrational.

3 What number equals 12 hundreds?

4 What number equals 16 one-thousandths?

5 What digit is in the hundred thousands place in the number 644,066?

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6 Let x be a negative integer. Let $p = (x - 0.34)^2$. Let $q = (x^2 - 0.34)$. Let $r = (x^3 - 0.34)$. Write r , s , and t in order from least to greatest.

7 What number is 8.08 to the left of 19 on the number line?

8 What number is 5.93 to the left of -14.58 on the number line?

9 What is 6×5.5 ?

10 What number is written in expanded form as $900 + 9$?

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11 Write the number 23,009 in expanded form.

12 What is the Roman numeral equivalent of 100?

13 What is the base 10 equivalent of the base four number 110?

14 What is the base 10 equivalent of the base four number 2323?

15 (T/F): -1033 is an even number.

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1 ANSWER: True. EXPLANATION: The square root of 16 is 4, which is an integer, and therefore rational.

2 ANSWER: True. EXPLANATION: A rational number has one or more digits to the right of the decimal point that repeat forever. Here, the number of 5's after each 7 keeps growing, so the number is irrational.

3 ANSWER: 1,200. EXPLANATION: To solve this, simply multiply 12 by 100.

4 ANSWER: 0.016. EXPLANATION: To solve this, simply multiply 16 by 0.001, which is equivalent to moving the decimal point three places to the left..

5 ANSWER: 6

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6 ANSWER: r, q, p. EXPLANATION: Clearly, p and q will both be positive, but r will be negative, so r will be least. Subtracting 0.34 from the negative integer x before squaring it means the resulting square is larger than it would otherwise have been, so $(x - 0.34)^2$ must be greater than x^2 , and p must be greater than q.

7 ANSWER: 10.92

8 ANSWER: -20.51

9 ANSWER: 33.0

10 ANSWER: 909. EXPLANATION: To convert numbers from expanded notation, simply add up the individual numbers shown in the expanded notation. In this case, the total is 909.

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11 ANSWER: $20,000 + 3,000 + 9$. EXPLANATION: To convert numbers to expanded notation, write the values of the numbers from left to right, with plus signs in between. Skip the zeroes.

12 ANSWER: C

13 ANSWER: 20

14 ANSWER: 187

15 ANSWER: False. EXPLANATION: A number is even if and only if it is an integer that ends in 0, 2, 4, 6, or 8. Integers that end in 1, 3, 5, 7, or 9 are odd. Since -1033 ends in 3, it is odd.