

**Practice Problems for Numbers**  
from [www.topmath.info](http://www.topmath.info)

1 (T/F): If  $x^2 > y^2$ , then  $|x| > |y|$ .

2 What number is 12.89 to the right of 16.19 on the number line?

3 What is  $8 + 4.4$ ?

4 What is  $19 \div 3.8$ ?

5 Write the number 798 in expanded form.

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6 Write the number 4,037 in expanded form.

7 What is the base 10 equivalent of the binary number 110?

8 What is the base 10 equivalent of the binary number 1111?

9 (T/F): 11 is an integer.

10 (T/F): -344 is an odd number.

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11 (T/F): The square root of 22 is an irrational number.

12 (T/F): The number 35.12122122212222. . . is rational.

13 What number equals 99 one-hundredths?

14 What number equals 9640 one-thousandths?

15 What digit is in the billions place in the number 3,258,545,090?

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1 ANSWER: True. EXPLANATION: The use of absolute value is what makes this true.

2 ANSWER: 29.08

3 ANSWER: 12.4

4 ANSWER: 5.0

5 ANSWER:  $700 + 90 + 8$ . 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.

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6 ANSWER:  $4,000 + 30 + 7$ . 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.

7 ANSWER: 6

8 ANSWER: 15

9 ANSWER: True. EXPLANATION: An integer has no digits to the right of the decimal point. Since 11 has no digits to the right of the decimal point, it is an integer.

10 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 -344 ends in 4, it is even.

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11 ANSWER: True. EXPLANATION: Only perfect squares have rational square roots. Since there is no integer that can be multiplied by itself to make 22, the square root of 22 is irrational.

12 ANSWER: False. EXPLANATION: A rational number has one or more digits to the right of the decimal point that repeat forever. Here, the number of 2's after each 1 keeps growing, so the number is irrational.

13 ANSWER: 0.99. EXPLANATION: To solve this, simply multiply 99 by 0.01.

14 ANSWER: 9.64. EXPLANATION: To solve this, simply multiply 9640 by 0.001, which is equivalent to moving the decimal point three places to the left..

15 ANSWER: 3