

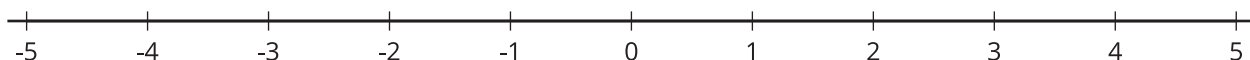


# Irrational Numbers

Let's explore irrational numbers.

## 15.1 Finding a Home for Irrational Numbers

Use the number line to place these values in their approximate location.

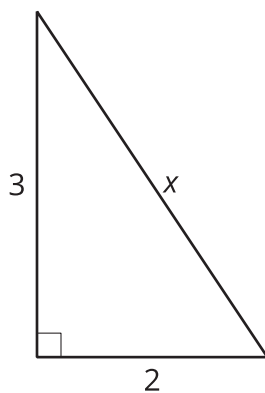


1.  $\sqrt{5}$
2.  $-\sqrt{13}$
3.  $3 + \sqrt{2}$
4.  $3 - \sqrt{2}$

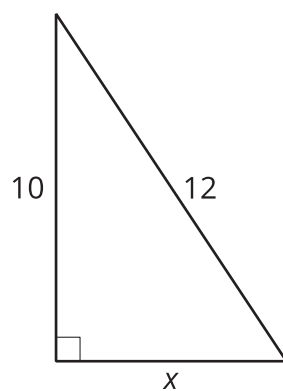
## 15.2 Solving for Missing Sides

For each triangle, use the Pythagorean Theorem to find the length of the missing side.

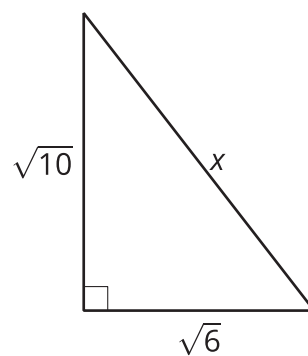
1.



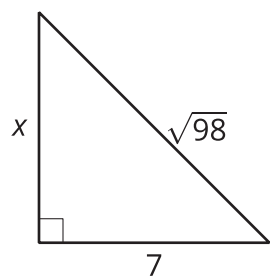
2.



3.



4.



**15.3****Solving with Square Roots**

Solve each of these equations. Represent the solutions exactly. If the solution is not a whole number, what 2 whole numbers does each solution lie between? Be prepared to explain your reasoning.

1.  $(x + 1)^2 = 64$

2.  $(x - 3)^2 - 4 = 0$

3.  $x^2 = 10$

4.  $(x - 2)^2 = 12$

5.  $(x + 3)^2 = 24 + 4$

