Answer to Chapter 7 Test Review

1. is closer to the whole number 12. If you approximate the answer you get 11 which is closer on a number line to 12 then to 11.
2. is an irrational number because the actual answer when found using a calculator is a nonrepeating decimal that does not terminate. is a rational number. Any number that can be made into a ratio or fraction is a rational number. Other examples of rational numbers include improper fractions, repeating decimals, terminating decimals, and perfect square numbers like 4 and 16.
3. is closer to the whole number 8. If you calculate its approximate value it is 7 on a number line this number would be closer to 8.
4. You are finding the leg of a right triangle so you must use a variation of solving for one of the sides - so substituting in the values you would get a = 6 in
5. You are finding the leg of a right triangle so you must use a variation of solving for one of the sides - so substituting in the values you would get a = 39.5 yd. (Don’t forget to round correctly. In this case round to the nearest 10th (1 decimal place to the right)
6. If given 3 sides of a triangle label the sides as either a leg (a or b) and the hypotenuse (c). Remember that the longest side is always the hypotenuse. The substitute the values into the Pythagorean Theorem if the two sides equal each other then you have a right triangle. In this case 122+352= 1369 and 372= 1369 so the triangle with sides of 12, 35, and 37 are right triangles.
7. If given 3 sides of a triangle label the sides as either a leg (a or b) and the hypotenuse (c). Remember that the longest side is always the hypotenuse. The substitute the values into the Pythagorean Theorem if the two sides equal each other then you have a right triangle. In this case 42+72= 65 and 152= 225 so the triangle with sides of 4,7 and 15 is not a right triangles.
8. The diagonal is always the hypotenuse of a right triangle. So use and substitute the 8.5 and the 11 in for legs a and b then solve for c and your answer is c 13.90, but it asks you to round to the nearest whole number so that would be 14.
9. A baseball diamond is a square so if you are moving from first directly to third that is the diagonal and that is the hypotenuse of a right triangle. So use and substitute in the values of 30 yards for legs a and b and solve for c. DON”T for get to take the square root of the sum of to give you c only. c= = 42.4 yards
10. In this problem you are given the diagonal and one side so you must solve for the missing side. Use - which means - = 259.84 so c = = 16.1
11. Remember the ladder is always the hypotenuse. You are given the ladder length and the ground length so you must solve for the side of the building. Use - which would be - = 183.75 b = = 13.55 and rounded to the nearest tenth would be 13.6
12. To solve this problem plot the points on a coordinate plane. Draw a line connecting the two points. From that line make a right triangle. Each leg of the triangle will the difference in units from one point to the next along the x or y axis. Use those values to find the length of the line connecting the two points or the hypotenuse. So and in this case a = 3 and b= 2 so so c = = 13.6 when rounded to the nearest tenth.
13. You are finding the slant height which is the hypotenuse. You are given that the legs are 8 and you can find the other leg because its length is ½ the base width of 4 cm) so a= 8 and b= 2. Use and so then take the square root of 68 to find c and c= 8.2 cm