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IP Unit 3

Name:
Section Number:

Instructions:

- Identify the document by typing your full name and section number next to the yellow text.
- Rename the file by adding your last name to current file name (e.g., "u3ip_lastname.doc").
- Type your answers next to the yellow text.
- To show your work, you will need to include
  - the formula with substituted values.
  - the final calculated answer with units.

Please submit your assignment.

1) Solve the following equations.
   a) $\sqrt{x} - 1 = 3$
   Answer:
   Show work in this space.

   b) $\sqrt{x^3} = 8$.
   Answer:
   Show work in this space.

   c) $\sqrt[3]{x^2} = 4$.
   Answer:
   Show work in this space.

2) Is $\sqrt{x^2} = x$ an identity (true for all values of x)?
   Answer:
   Explain your answer in this space.

3) For the equation $x - \sqrt{x} = 0$, perform the following:
   a) Solve for all values of x that satisfies the equation.
      Answer:
      Show work in this space

b) Graph the functions $y = x$ and $y = \sqrt{x}$ on the same graph (by plotting points if necessary). Show the points of intersection of these two graphs.
<mark>Graph</mark>

c) How does the graph relate to part a?
<mark>Answer:</mark>

4) A right triangle is a triangle with one angle measuring 90°. In a right triangle, the sides are related by Pythagorean Theorem, $c^2 = a^2 + b^2$ where c is the hypotenuse (the side opposite the 90° angle). Find the hypotenuse when the other 2 sides' measurements are 3 feet and 4 feet.
<mark>Answer:</mark>
<mark>Show work in this space</mark>

5) Suppose you travel north for 35 kilometers then travel east 65 kilometers. How far are you from your starting point?
<mark>Answer:</mark>
<mark>Show work in this space.</mark>

6)

The volume of a cube is given by $V = s^3$. Find the length of a side of a cube if the Volume is 729 cm^3.
<mark>Answer:</mark>
<mark>Show work in this space.</mark>