Name:

MTH133

Unit 3 – Individual Project

**Name:**

1) Solve the following algebraically. Trial and error is not an appropriate method of solution. You must show all your work.

Learn how to type math roots and fractions by clicking on link in the assignment list. Alternately, you may type  as cuberoot(*x*) and show raising to the *n*th power as ^*n*, like *x* 3 is typed *x*^3.

a) 

Answer:

Show your work here:

b) 

Answer:

Show your work here:

c) 

Answer:

Show your work here:

2) Solve algebraically and check your potential solutions: 

Answer:

Show your work here:

3) a) Show the steps that you would take to solve the following algebraically: 

Show your work here:

b) What potential solution did you obtain? Explain why this is this not a solution.

Answer:

4) The following functioncomputes the cost, *C* (in millions of dollars), of implementing a city recycling project when *x* percent of the citizens participate. 

a) Using this model, find the cost if 60% of the citizens participate?

Answer:

Show your work here:

b) Using this model, determine the percentage of participation that can be expected if $4 million is spent on this recycling project. Set up an equation and solve algebraically. Round to the nearest whole percent.

Answer:

Show your work here:

5) The volume of a cube is given by *V* = *s*3, where s is the length of a side. Find the length of a side of a cube if the volume is 500 cm3. Round answer to three decimal places.

Answer:

Show your work here:

6) Suppose that *N*=models the number of cases of an infection, in millions, of a disease *x* years from now.

a) How many cases of the infection will there be 9 years from now?

Answer:

Show your work here:

b) In how many years will there be 5 million cases?

Answer:

Show your work here

7) a) If , fill in the following table for *x* = 0,1,2,3,4. Round to three decimal places where necessary.

|  |  |
| --- | --- |
| ***x*** | ***y*** |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |

Show your work here:

b) Explain why no negative values are chosen as values to substitute in for *x*.

Answer:

1. Graph in MS Excel or another web-based graphing utility and paste your graph here. Read the information in the assignments list to learn more about how to graph in MS Excel.

Answer:

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