Name:

MATH133 Unit 3 – Individual Project – C

1)   Solve the following equations algebraically. You must show all your work. Learn how to type math roots and fractions by clicking on the link in the assignment list. Alternately, you may type $\sqrt[3]{x}$ as cuberoot(x) and show raising to the nth power as ^n, like x^3 is typed x^3.

       a) $t^{\frac{2}{3}} = 4$

Answer:

Show your work here:

       b) $\sqrt[5]{x} + 1 = 3$

Answer:

Show your work here:

       c) $\dfrac{2}{3} = 2 - \dfrac{5x-3}{x-1}$

Answer:

Show your work here:

2)   Solve algebraically and check your potential solutions:

       a) $\sqrt{x+2} - x = 0$

Answer:

Show your work here:

b)

$$4 - \frac{x}{x-2} = \frac{-2}{x-2}$$

<mark>Show your work here:</mark>

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

3)   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(round the answer to three decimal places) if the volume is

a) 800 cm^3.

<mark>Answer:</mark>

<mark>Show your work here:</mark>

b) 500 cm^3.

<mark>Answer:</mark>

<mark>Show your work here:</mark>

4) The formula to find the wind chill temperature is given by

$$w = 33 - \frac{\left(10.45 + 10\sqrt{V} - V\right)(33 - T)}{22}$$

Where,
W is Wind Chill temperature (temperature with no wind)
T is actual temperature in Celcius

V is wind speeds in m/sec

Find the Wind Chill temperature given the following:
   a) $T = 10^0 C$, v = 9m/sec

   <mark>Answer:</mark>

   <mark>Show your work here:</mark>

   b) $T = 0^0 C$, v = 15m/sec

   <mark>Answer:</mark>

   <mark>Show your work here:</mark>

   c) $T = -10^0 C$, v = 20m/sec

   <mark>Answer:</mark>

   <mark>Show your work here:</mark>