

# **NZFBI EXAM 2009**

## **Unit 2 – Hydraulics and Mathematics**

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### **Question 1:**

- a) *The candidate was asked to calculate the capacity of the water source, and the length of time to drain the tank.***

Some candidates were confused with radius and diameter measurements. And others made some really simple mistakes, by knocking off an extra 0 from one calculation to the next, or reading what they wrote in the equation as 8 l (litres) and then calculating 81 in the next calculation.

Remember to go back and double check answers at the end of the exam so simple marks like this are not lost.

- b) *The candidate was asked to work out the pressure required at the pump.***  
A few forgot to include the branchmans length as a 45mm hose.
- c) *The candidate was asked to calculate the capacity of a 70mm and 45mm hose and to show workings.***

Some did not show workings and lost marks because of this. Please read the question thoroughly before answering. Take note of the amount of points required to answer the question. If 4 marks are allocated to a question, a single answer is not going to cut it. Some had the wrong length for these hoses. In most equations used to work out the litrage, you need to convert the mm measurement into metres so some candidates lost marks for putting the decimal point in the wrong place.

### **Question 2:**

- a) *The candidate was asked to estimate the volume of a stream.***

Mostly this was a well answered question

- b) *The candidate was asked to work out the capacity of an irregular pond.***

Mostly this was a well answered question. But some did not read that it is an irregular shape so therefore needed to adjust the calculation accordingly. One person even calculated the area by using a grid with percentages for each square which was ok too.

### **Question 3:**

***A variety of short questions were asked including filling in the missing words.***

Mostly this was well answered. Just remember to read the questions properly otherwise simple marks can be lost.

### **Question 4:**

***The candidate was asked for five rules governing the characteristics of pressure in liquids including illustrations.***

Few attempted this question.

### **Question 5:**

***Candidates were asked to explain factors of suction lift to maximize the efficiency of the pump.***

Those who studied achieved top marks. Some candidates however, did not explain some of their answers so lost marks accordingly.

### **Question 6:**

***This was all multi choice questions.***

This was mostly a really well answered question and very popular. Those that studied got excellent marks.