

# JCC Pool Budget Plan

## Grade 8 Math

Mrs. Cleveland

Due date: \_\_\_\_\_ 2019

## Cumulative JCC Pool Budget Plan

You have been hired by the SJCC to do rebuild and renovate the outdoor swimming pool. Imagine that this will be presented to the Board of Directors at the SJCC – **NEATNESS AND CREATIVITY WILL COUNT!**

Your report ***MUST*** include:

- ❖ Cover page
- ❖ Table of Contents
- ❖ A bird's-eye view drawing of the pool area, to scale AND model of the pool, built to scale.
- ❖ Operating costs presented in Excel or Sheets (see attached sample)
- ❖ Complete calculations for the required improvements (each on a separate page)
  - New hot tub (Surface Area)
  - Re-fencing the enclosure (Perimeter)
  - Painting of the pool and painting black lane lines (Surface Area)
  - Re-paving the deck (Surface Area)
  - How much water needed to fill hot tub and pool. (Volume)
- ❖ Salaries
  - Monthly Salaries
  - Employer contributions for EI (Employment Insurance) and CPP (Canadian Pension Plan)
- ❖ Cost of Utilities
  - Water
  - Electricity
- ❖ Algebraic formula demonstrating 5 different possible combinations of memberships which will cover the entire expense of operating the pool.
- ❖ Graph which shows the proportioning of monthly expenses for the season.
- ❖ Signed deadline sheet/grading sheet

**Don't forget to add HST on all expenses except salaries, EI/ CPP contributions (no HST on those)**

**HST is 13% and should be calculated on a total bill at the end of each month.**

All necessary numbers and figures are included in this package.  
 You will be graded as follows:

· Meeting deadlines	5%
· Presentation (neatness, appearance, creativity)	10%
· Graph	5%
· Drawing and Model	20%
· Inclusion of all requirements	5%
· Demonstration of calculations	25%
· Accuracy of analysis	20%
· Reflection	<u>10%</u>
<b>Total</b>	<b>100%</b>

Use a folder to keep all of your work together in one place and organized. Also keep your online sheets/excel in an online place so you can access it from anywhere and keep it up to date.

### **Facts and Figures**

Electricity:

- Cost \$9.23 per Kw
- Water Pump (runs 24h/day)
- What the pool uses \$5.75 Kw per hour
- Delivery Charge \$302.65 each month

Water:

2.07 m<sup>3</sup>

- Calculate cost to fill **pool and hot tub** (assume they are filled to the top)
- Calculate an evaporation/spill rate of 8%/week
- Sewer Charge 129% of monthly water bill

Salaries:

- (all employees work 140 hours each month)
- 5 employees
- 1 manager \$24/h
- 2 supervisors earn 16.50/h each
- 4 lifeguards \$14/h each

Employer EI contributions	3.56% of earnings
Employer CC contributions	5.43% of earnings

**Paint:**

- One paint can will cover 35m<sup>2</sup> \$154.76/can

**Fencing:**

- Price includes installation and materials \$93.76/m

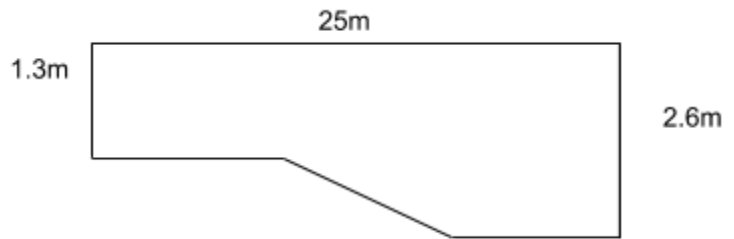
**Paving stones for new deck:**

- Price includes installation and materials \$32.47/m<sup>2</sup>

**Tiles for new hot tub:**

- Price includes installation and materials 43.61/m<sup>2</sup>

**Dimensions:**



**Pool:** (see sketch)

25m x 10m

**Depth**

Shallow end: 1.7m for 4 m

Deep end: 2.3m for 8 m

**Lane lines:**

5 lines

Each line measures 0.4 meters wide x 25 meters long

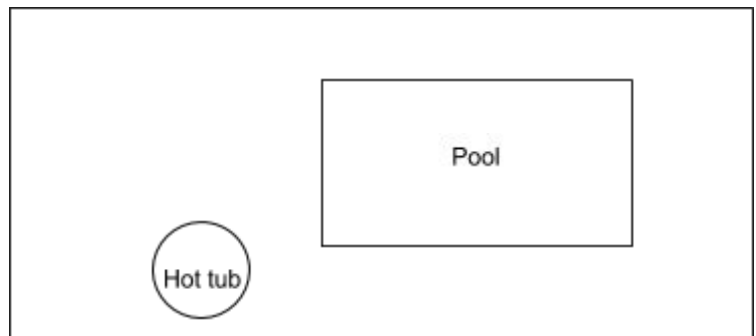
**Hot tub:** (see sketch)

2.3m radius x 1.3 m



**Pool deck:** (see sketch)

50m x 25m



**Memberships:** (for the outdoor pool season only)

Adult	\$180
Adult Couple	\$250
Family	\$410
Senior	\$150
Senior Couple	\$200
Student	\$125

Grade 8 Parents and Students:

This assignment is a cumulative project based assignment that will make up 20% of your (your child's) final mark in June. The project goes over and covers the material in which we have learned this year including: volume, area, algebraic expressions, rates, ratios, percents, application, problem solving, creating representations, and graphing and using spreadsheets to collect and organize data.

All information required in attached within this work packet. The students are encouraged to work from now, until the the due date as the year progresses.

Parents: please sign below to signify that you are aware of this assignment and the chunked/relevant due dates that are planned throughout the year.

A copy of this assignment is posted on the Grade 8 Student Blog.

If you have any questions, please let me know.

Best,

Mrs. Cleveland

Student: \_\_\_\_\_

Parents Signature: \_\_\_\_\_

