JavaScript Math

Objectives

- Apply knowledge of variable declaration, initialization and assignment.
- Apply JavaScript functions to solve math problems.

Instructions

1) In your Sandbox, create a new **JavaScript Console** program called "JavaScriptMathAssignment"
2) In a separate window, navigate to the JavaScript School Fusion Page
    - Navigate to http://gorr.kprhs.kingphilip.org, and select **Introduction to Computer Science: Period-C** (or just click this link)
3) Click on the Web Page entitled "JavaScript Math Assignment Template,"
4) Copy and paste the code into the sandbox program you just created.
5) Edit the template based on the instructions below.
6) To submit the program, create a Share Link and email it to gorrm@kingphilip.org.

Part 1: Basic Calculations

1) Initialize variables a, b and c to the following values: $a = 4, b = 11, c = 7$
2) Convert each of the following mathematical expressions into an equivalent JavaScript expression. Print the results of each expression in the form " a) …"
    a) $4ac$
    b) b^2
    c) $\sqrt[a]{b}$
    d) $\frac{a}{b} + \frac{b}{a}$
    e) $\frac{-b+\sqrt{b^2-4ac}}{2a}$

    NOTE: For the roots, you may use the JavaScript Power function from the math toolbox, in the form **`Math.pow(base,exponent)`**. To find a square (2nd) root, the exponent would be ½.

Part 2: Additional JavaScript Expressions

1) Perform the following calculations yourself using mental math, pencil and paper, or a calculator. Type your answer into the designated places in the template file.
2) Type the calculations EXACTLY AS THEY APPEAR into your JavaScript program and print the results in the form "a) …"

```
a) 8/5-5/8
b) 3+4/5-6/7*8
c) 0.1*0.1*0.1
```

3) If your predicted value for any of these expressions is different from its JavaScript value, discuss possible reasons why this is the case.