Name: _____   Date: _____

Powers

This program will input two numbers and calculate the first number to the power of the second.

Work through the test from the beginning. Make sure that the teacher verifies that you have got each point as you go. Your program should build and grow – do not start new program for each point. You may use any resources that you have created for this test. You may not use Internet.

Instructions	*Program Display*
1. Begin a new program and output your name.	```John Smith```
2. Input two numbers.	```Enter the base : 2``` ```Enter the exponent : 8```
3. Warn if the base is zero.	```Enter the base : 0``` ```Warning base = 0.```

4. Make your program stop (do nothing / exit) if the base is zero. ***Do not*** use `System.exit(0);`	```Enter the base: 0```
	```Warning base = 0. Nothing to do.```
	```(Program ends)```

5. Warn if the exponent is negative and stop the program if it is. ***Do not*** use `System.exit(0);`	```Enter the base : 2```
	```Enter the exponent: -8```
	```Exponent < 0. Nothing to do.```
	```(Program ends)```

6. Calculate and output the result of the operation, ***without*** using `Math.pow()`	```Enter the base : 2```
	```Enter the exponent: 8```
	```2 to the power of 8 = 256```

7. If the exponent is negative, calculate and output the power as a fraction and decimal, as illustrated on the next column.	```Enter the base : 2```
	```Enter the exponent: -8```
	```2 to the power of -8 = 1/256 =```
	```0.00390625```

8. Repeat the whole process until zero (0) is input as the base.	```Enter the base : 2```
	```Enter the exponent: 8```
	```2 to the power of 8 = 256```
	```...```
	```Enter the base: 0```
	```Warning base = 0. Nothing to do.```
	```(Program ends)```

9. Beautify the output of x^{-y} as shown (for negative exponents *only*)	```Enter a base : 10```
	```Enter an exponent: -4```
	```10 to the power of -4 =```
	``` ```
	``` 1```
	```---- = 0.0001```
	```10^4```

10. Further beautify a detailed output of x^{-y} as shown (for negative exponents *only*)	```Enter a base : 2```
	```Enter an exponent: -8```
	```12 to the power of -8 =```
	``` ```
	``` 1```
	```--- =```
	```2^8```
	``` ```
	``` 1```
	```--- = 0.00390625```
	```256```