INDIAN SCHOOL AL WADI AL KABIR

Class: IX	DEPARTMENT OF COMPUTER SCIENCE	Date of submission:
Topic: Different scratch blocks ,arithmetic operators and mathematical Functions		**Worksheet4**

SECTION- A

Fill in the blanks :

1. ……'*Move___steps' block*…………..is an example of Command Block.

2. ………*'when space key pressed' block*……………is an example of trigger block

3. Function blocks are also called…reporters…………………

4. The blocks used to perform arithmetic operators are called…Operator block…

5. …Command……and……control………….blocks are also called stack block.

6. There are ……14……number of mathematical function in scratch.

State whether True or False

1. The outputs of pick random 0 to 1 and pick random 0 to 1.0 are same

2. There are 14 mathematical function in scratch.

3. Function blocks (also called reporters) don't have notches or bumps.

4. Trigger blocks do not connect events to scripts

5. *'When green flag clicked'* block will run when the user clicks on sprite

 Answers 1) False 2) True 3) True 4) False 5)Flase

Answer the following Questions

1) Define the following

a) Stack block

These are blocks which have bumps on the bottom and/or notches on the top. You can snap these blocks together into stacks. Command blocks and control blocks (also called stack blocks)

b) Hat block

Trigger blocks are also called hats block. They have rounded tops because they are placed at the top of a stack. Trigger blocks connect events to scripts. They wait for an event—such as a key press or mouse click—and run the blocks underneath them when that event happens. For example, all scripts that start with the when green flag clicked block will run when the user clicks the green flag icon.

c) Reporters

Function blocks (also called reporters) don't have notches or bumps. They can't form a layer of a script alone; instead, they're used as inputs to other blocks. The shapes of these blocks indicate the type of data they return. For example, blocks with rounded ends report numbers or strings, whereas blocks with pointed ends report whether something is true or false

2) How to generate random numbers in scratch.

Scratch provides the "pick random block " is used for generating random numbers. This block outputs a random number each time you use it. Its two editable white boxes allow you to enter a range for that number, and Scratch

will only choose values between the two limits (inclusive).

3) Explain any two mathematical function in scratch.

sqrt of block

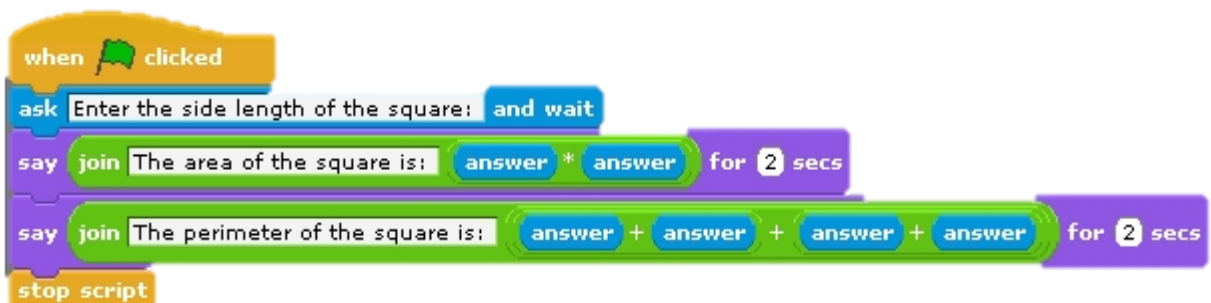Returns the square root of x. This is another number y such that $y^2 = x$.

For example, sqrt(16) = 4, sqrt(2) = 1.4142, and sqrt(0) = 0. Passing a negative value

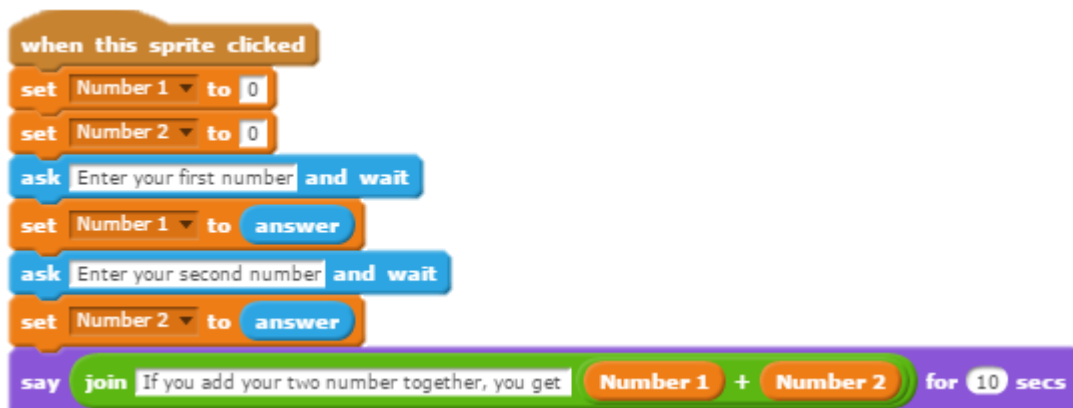for x returns NaN (short for "not a number").

sin of Block

Returns the sine of x, where x is an angle expressed in degrees.

For example, sin(0) = 0, sin(30) = 0.5, and sin(90) = 1.

4) Write the scratch program blocks to find the Area and perimeter of a square.

5) Write the scratch program blocks to find the sum of two numbers .

6) Use the say command and the appropriate blocks from the Operators palette to calculate the following:

a. The square root of 32

`say ( sqrt ▼ of (32) ) for (2) secs`

b. The sine of 30°

`say ( sin ▼ of (30) ) for (2) secs`

c. The cosine of 60°

`say ( acos ▼ of (60) ) for (2) secs`

d. The result of rounding 99.459

`say ( round (99.459) ) for (2) secs`