*USING ONLY THESE INPUTS*.

1(a) Using 6, 8, 12 and 14 once and only once make 27.

(b) Using 6, 8, 12 and 14 as often as you like, what numbers can you make?

(c) What numbers under 20 can you make from 6, 8, 10 and 12?

(d) Make 1 in as many ways as you can using 6, 8, 10 and 12 as often as you like.

(e) Using 6, 8, 10 and 12 at most twice each, what numbers can you make that end in a half?

2 The answer is 6. What is the question?

3 The 7 key is broken, or without using 7, Find ways of doing or showing 7 + 7

 74x47 17/7 7.7 27 77

4 One of the —, x, keys is broken (3 separate activities); find a way round it. Also the ( ) keys.

5 Pick one number in the range 50] and 5 in the range . Ask a friend for a number in the range How close can you get to it using your numbers at most once?

6 Find 2 whole numbers that multiply to give 899. (Apart from 1 x 899). Now do it for 819. What is it about the numbers that makes 899 hard and 819 easy? Make some up yourself and label them hard to easy and try them on a friend.

7 Using 4 and 7 as often as you like, what numbers can you find? Do it for other pairs of numbers. Is there a general pattern?

8 Using 4,7, + and as often as you like, what numbers can you make under 30? Try another pair of numbers. Can you predict the answers?

9 Enter 1. Using (2, 3, 5, 7, x) and (1, +, —) as often as you like making all the numbers under 100.

10 Using 1, 2, 3, 4, ~ in that order, see how many numbers you can make.

11 The decimal point is broken. Do 1.22.3, 1.2 x 2.3

12 Create 2 numbers from 1, 2, 3, 4, 5, 6, 7, 8, 9 used only once. Maximum product?

13 Some numbers add up to 19 what is their maximum product?

14 Start by entering a decimal in the calculator in the calculator and keep adding bits until you get to 5. (Lower ability) If you go over then start again.

15 Hit 12

For any number of players - but only one calculator.

One player chooses a starting number. Players then take it in turns to multiply the display number by one of their own choice. The winner is the one who obtains a display number within 0.05 of 12 (between 11.95 and 12.05). Then another player chooses a starting number.

This is how one game went:

Player A: I’ll start with 25

B: I’ll multiply by 0.5 x 0.5 = 12.5

C I’ll choose 0.9 x 0.9 = 11.25

A 1.05 x 1.05 = 11.8125

B 1.1 x 1.1 = 12.99375

C 0.92 x 0.92 = 11.95425

**So player C is the winner**