Practice

01 Write a function to calculate the area of a pizza and its cost per square metre, given its radius. Given n sections of pizza, find the cost of each section.

02 Fibonacci Numbers. The Fibonacci number sequence is 1, 1, 2, 3, 5, 8, 13, 21, etc. In other words, the next value of the sequence is the sum of the previous two values in the sequence. Write a routine that, given N, displays the value of the Nth Fibonacci number. For example, the first Fibonacci number is 1, the 6th is 8, and so on. Write a function to calculate nth Fibonacci number.

03 Write a function called sum_digits that is given an integer num and returns the sum of the digits of num.

04 The digital root of a number n is obtained as follows: Add up the digits n to get a new number. Add up the digits of that to get another new number. Keep doing this until you get a number that has only one digit. That number is the digital root.
For example, if n = 45893, we add up the digits to get 4 + 5 + 8 + 9 + 3 = 29. We then add up the digits of 29 to get 2 + 9 = 11. We then add up the digits of 11 to get 1 + 1 = 2. Since 2 has only one digit, 2 is our digital root.
Write a function that returns the digital root of an integer n.

05 Write a function called binom that takes two integers n and k and returns the binomial coefficient

06 Write a function that takes an integer n and returns a random integer with exactly n digits. For instance, if n is 3, then 125 and 593 would be valid return values, but 093 would not because that is really 93, which is a two-digit number.

07 Write a function called number_of_factors that takes an integer and returns how many factors the number has and print all factors.

08 Our number system is called base 10 because we have ten digits: 0, 1, . . . , 9. Some cultures, including the Mayans and Celts, used a base 20 system. In one version of this system, the 20 digits are represented by the letters A through T. Here is a table showing a few conversions:

10	20	10	20	10	20	10	20
0	A	8	I	16	Q	39	BT
1	B	9	J	17	R	40	CA
2	C	10	K	18	S	41	CB
3	D	11	L	19	T	60	DA
4	E	12	M	20	BA	399	TT
5	F	13	N	21	BB	400	BAA
6	G	14	O	22	BC	401	BAB
7	H	15	P	23	BD	402	BAC

Write a function called base20 that converts a base 10 number to base 20. It should return the result as a string of base 20 digits. One way to convert is to find the remainder when the number is divided by 20, then divide the number by 20, and repeat the process until the number is 0. The remainders are the base 20 digits in reverse order, though you have to convert them into their letter equivalents.

09 Write a function that returns the value of a quadratic function at a particular x value. A quadratic is a polynomial of the form:
ax2 + bx + c
The function quad() is passed values for a, b, c, and x and returns the value of the polynomial.

10 Write a function that computes the area of a triangle given the length of its three sides as parameters