**On Dart - Exercise 0**

0.1

Assign 5, 7, 8 to x, y, z respectively. Calculate x - y / z. What is the result when you calculate it by hand? What is the result calculated by Dart? Are they the same?

main() {

var x = 5;

var y = 7;

var z = 8;

var r = "";

r = x-y/z;

print(r);

}

🡺4.125

Result by hand = 4,125

Result by Dart = 4,125

They are the same.

0.2

Calculate an area of a circle that has a radius of 10.

import 'dart:math';

main() {

var radius = 10;

var area = PI\*radius\*radius;

print(area);

}

🡺314.1592653589793

0.3

A rare country jewel: Ready to build country lot (220 X 260 feet) for your dream home in a clean, quiet and peaceful rural setting.

What is the size in acres of this lot?

main() {

var width = 260;

var length = 220;

var square = width\*length;

var conversion = 43560;

var acres = square/conversion;

print(acres);

}

🡺1.3131313131313131

0.4

In Berlin in 2009, Usain Bolt broke his Olympic record on 100 meters to win at 9.58 seconds. How fast he was running?

main() {

var distance = 0.1;

var time = 9.58;

var one\_hour = 3600;

var speed = one\_hour\*distance/time;

print("${speed} km/h");

}

🡺37.578288100208766 km/h

0.5

Print the first 11 numbers, starting with 0, of the Fibonacci sequence, but without using a loop.

main() {

var n1 = 0;

var n2 = 1;

var n3 = n1+n2;

var n4 = n2+n3;

var n5 = n3+n4;

var n6 = n4+n5;

var n7 = n5+n6;

var n8 = n6+n7;

var n9 = n7+n8;

var n10 = n8+n9;

var n11 = n9+n10;

var fib = [n1, n2, n3, n4, n5, n6, n7, n8, n9, n10, n11];

var valeur = " ";

for (int n in fib) {

valeur = '${valeur}${n} ';

}

print(valeur);

}

🡺 0 1 1 2 3 5 8 13 21 34 55

0.6

There is a point in the center of a rectangle with the width of 980 and the height of 660 pixels. The north-west corner of the rectangle has zero coordinates (x = 0, y = 0). Positive x numbers go towards the east of the rectangle. Positive y numbers go towards the south of the rectangle.

Draw a line of the length of 120 pixels from the center of the rectangle under the angle of 33 degrees towards the south-east of the rectangle.

Given the center of the rectangle as the starting point and the angle of 33 degrees, calculate the end point of the line.

import 'dart:math';

main() {

var width = 980;

var height = 660;

var angle = 33;

var length = 120;

var varians = angle/180;

var x\_middle = width/2;

var y\_middle = height/2;

var x = cos(varians)\*length+x\_middle;

var y = sin(varians)\*length+y\_middle;

print("The end point of the line is: (x;y) = (${x};${y})");

}

🡺The end point of the line is: (x;y) = (607.9889755426308;351.876966206503)

0.7

Calculate the time in years, months, days, hours, minutes and seconds passed between your birthday at noon and today at noon.