# Javascript Basics

1. Write a program to input a number and find its square, cube and fourth power.

var num=Number(prompt("Enter number:"));

alert("num = "+num+" num² = "+(num\*num)+" num³ = "+(num\*num\*num)+" num⁴ = "+(num\*num\*num\*num));

## Exercises 1.7

2. take one number input from the user and find the smallest number which, when squared, is larger than the input number.

//I am going to assume that number in the question means a positive integer

var input=Number(prompt("Enter an Integer:"));

alert("answer = "+Math.ceil(Math.sqrt(input+1)));

3. estimate how many house bricks are required to make a garden feature consisting of a circular wishing well 6 bricks high and 4 feet in diameter.

var length=Number(prompt("Enter brick length:"));

alert("Estimate of number of bricks required = "+(Math.round((Math.PI\*4/length)\*6)));

## Assignments A1

1. take four numbers from the user and calculate their average.

var n1=Number(prompt("Enter Number 1:"));

var n2=Number(prompt("Enter Number 2:"));

var n3=Number(prompt("Enter Number 3:"));

var n4=Number(prompt("Enter Number 3:"));

alert("The average is:"+((n1+n2+n3+n4)/4));

2. take four numbers from the user and calculate their maximum and minimum.

var n1=Number(prompt("Enter Number 1:"));

var n2=Number(prompt("Enter Number 2:"));

var n3=Number(prompt("Enter Number 3:"));

var n4=Number(prompt("Enter Number 4:"));

alert("Maximum:"+Math.max(n1,n2,n3,n4)+" Minimum:"+Math.min(n1,n2,n3,n4));

3. find the area of a circle given the radius r using the formula **area = pi r squared**.

var r=Number(prompt("Enter Radius:"));

alert("Area of circle with radius "+r+" is:"+(Math.PI\*Math.pow(r,2)))

4.take a weight in pounds and ounces and convert to kilograms (1 pound = 16 ounces = 0.45359237kg)

var ounce=Number(prompt("Enter ounces:"));

var kg=(pound+ounce/16)\*0.45359237;

alert(pound+" pounds "+ounce+" ounces = "+kg+" kg");

//alert(pound+" pounds "+ounce+" ounces = "+kg.toFixed(2)+" kg");

5. take a weight in kilograms and convert to pounds and ounces.

var kilograms=Number(prompt("Enter kilograms:"));

var poundsD=kilograms/0.45359237;

var poundsI=Math.floor(poundsD);

var ounces=Math.round((poundsD-poundsI)\*16);

alert(kilograms+" kilograms = "+poundsI+" pounds "+ounces+" ounces (rounded)");

6. find the value of 2 to the power 16.

alert("The value of 2¹⁶ is: "+Math.pow(2,16));

7 find the roots of a quadratic equation **a x squared + bx + c = 0** using the formula **x equals minus b plus or minus the square root of b squared minus 4ac all over 2a**

/\* I know nothing about quadratic equations so I am going to

// x² + 6x + 8= 0 x1=-2, x2=-4

var a=1,b=6,c=8;

var x1=(-b + Math.sqrt(b\*b-4\*a\*c))/(2\*a);

var x2=(-b - Math.sqrt(b\*b-4\*a\*c))/(2\*a);

alert("The roots are: "+x1+" & "+x2);

//alert("The roots are: "+x1.toFixed(2)+" & "+x2.toFixed(2));