

Practice questions for session 1

Question 1:

Write a program that prints the percentage marks of high school graduates by taking input of sum of their obtained marks and Maximum marks.

Question 2:

Write a program that takes input of radius of circle and prints its circumference and area.

Question 3:

Discounted Selling price is to be calculated if original selling price and discount percentage is given. Write a program to calculate and print discounted selling price of the user given two inputs (1) original selling price and (2) discounted selling price.

Question 4:

Write a program to calculate and print the original selling price if the discounted selling price and discount percentage is entered by the user.

Question 5:

Watts is the measure of power consumption of electrical appliances. Which can be calculated by using voltmeter and ammeter to read the voltage and ampere. Write a program that prints the Watts against the user given volt and ampere reading.

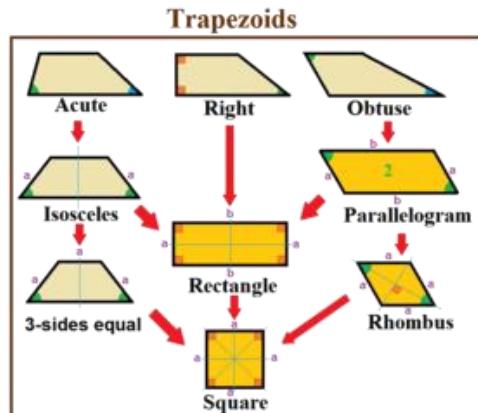
REF: <https://www.webstaurantstore.com/guide/600/how-to-calculate-amps-volts-and-watts.html>

Question 6:

A quadrilateral with at least one pair of parallel sides is called a trapezoid or trapezium.

The area K of a trapezoid is given by $K = h * (a + b)/2$, where a and b are the lengths of the parallel sides, h is the height (the perpendicular distance between these sides). Write a program that takes input lengths of two parallel sides and the perpendicular distance between these two parallel lines, and prints the area of this trapezoid. (Image Reference:

<https://en.wikipedia.org/wiki/Trapezoid> Trapezoid special cases. The orange figures also qualify as parallelograms.)



Question 7:

An even number is an integer of the form $n=2k$, where k is an integer. The even numbers are therefore ..., -4, -2, 0, 2, 4, 6, 8, 10, ... (REF:

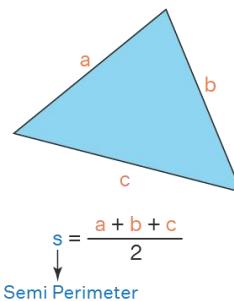
<https://mathworld.wolfram.com/EvenNumber.html>). While An odd number is an integer of the form $n=2k+1$, where k is an integer. The odd numbers are therefore ..., -3, -1, 1, 3, 5, 7, ... (REF: <https://mathworld.wolfram.com/OddNumber.html>). so for the purpose of writing a computer program we can deduce that if, upon dividing a real integer number by 2 leaves one as remainder then that number will be called an odd number otherwise it is an even number. Write a program that takes input an integer number and prints "EVEN" if it is an even number and if it is an odd number than it prints "ODD".

Question 8:

Area of a triangle can be calculated if lengths of its three sides is known by using the Heron's formula which says that Square root of $(s(s-a)(s-b)(s-c))$ where s is half of the perimeter of the triangle that can be calculated by adding length of all the three sides and then dividing it by 2.(for further information suggested resource is <https://www.cuemath.com/measurement/area-of-triangle/>).

The image given on right hand side of this question is available at the given URL.

Heron's Formula



$$s = \frac{a + b + c}{2}$$

Semi Perimeter

$$\text{Area of Triangle} = \sqrt{s(s-a)(s-b)(s-c)}$$

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