#7 Half Number

    int number;

    cout << "Please enter the first number  ? \n";

    cin >> number;

    cout << "Half of " << number << " is " << number / 2;

#9 sum of 3 numbers

    short a, b, c;

    cout << "Please enter the first number  A ? \n";

    cin >> a;

    cout << "Please enter the first number   B? \n";

    cin >> b;

    cout << "Please enter the first number  C? \n";

    cin >> c;

    int sum = a + b + c;

    cout << "Output is : " << sum;

#10 avg of 3 marks

    short a, b, c;

    cout << "Please enter the first mark1 ? \n";

    cin >> a;

    cout << "Please enter the first mark2? \n";

    cin >> b;

    cout << "Please enter the first mark3? \n";

    cin >> c;

    int avg = (a + b + c) / 3;

    cout << "Output is : " << avg;

}

#14 swap numbers

    short a, b;

    cout << "Please enter the first number  A ? \n";

    cin >> a;

    cout << "Please enter the first number   B? \n";

    cin >> b;

    cout << "Output : \n";

    cout << a << "\n"

         << b << "\n \n";

    short temp = a;

    a = b;

    b = temp;

    cout << a << "\n"

         << b << "\n";

#15 Rectangle area

   short width, length;

    cout << "Please enter  width ? \n";

    cin >> width;

    cout << "Please enter  length? \n";

    cin >> length;

    short rectangleArea = width \* length;

    cout << "Rectangle area is :" << rectangleArea;

#17 Triangle area

 short base, height;

    cout << "Please enter  base ? \n";

    cin >> base;

    cout << "Please enter  height? \n";

    cin >> height;

    float triangleArea = 0.5f \* base \* height; // f==>float

    cout << "Triangle area is : " << triangleArea;

#19 Circle Area through diameter

    float diameter;

    cout << "Please enter  circle  diameter ? \n";

    cin >> diameter;

    float radius = diameter / 2;

    const float PI = 3.14;

    float circleArea = PI \* radius \* radius; // f==>float

    cout << "circle area is : " << circleArea;

#20 circle area inscribed in a square

    float squareSideLength;

    cout << "Please enter  square side length ? \n";

    cin >> squareSideLength;

    const float PI = 3.14;

    float circleArea = (PI \* squareSideLength \* squareSideLength) / 4;

    cout << "circle area is : " << circleArea;

#21 circle area along the circumference

float circleCircumference;

    cout << "Please enter  circle circumference ? \n";

    cin >> circleCircumference;

    const float PI = 3.14;

    float circleArea = (circleCircumference \* circleCircumference) / (4 \* PI);

    cout << "circle area is : " << circleArea;

#22 circle area inscribed in an isosceles triangle

  float triangleequalSides, trianglebase;

    cout << "Please enter triangle sides length ,1-triangleequalSides 2-  trianglebase? \n";

    cin >> triangleequalSides;

    cin >> trianglebase;

    const double PI = 3.141592653589793;

    float circleArea = (PI \* trianglebase \* trianglebase / 4) \* ((2 \* triangleequalSides - trianglebase) / (2 \* triangleequalSides + trianglebase));

    cout << fixed << setprecision(3); // 4 أرقام بعد الفاصلة

    cout << "circle area is : " << circleArea;

#31 Power 2,3,4

  float number;

    cout << "Please enter  number : \n";

    cin >> number;

    cout << "power 2: " << number \* number << "\n";

    cout << "power 3: " << number \* number \* number << "\n";

    cout << "power 4: " << number \* number \* number \* number << "\n";

#35 Piggy Bank Calculator

 float number;

    short penny, nickel, dime, quarter, dollar;

    const short Penny = 1, Nickel = 5, Dime = 10, Quarter = 25, Dollar = 100;

    cout << "Please enter  pennies  : \n";

    cin >> penny;

    cout << "Please enter  nickels  : \n";

    cin >> nickel;

    cout << "Please enter  dimes  : \n";

    cin >> dime;

    cout << "Please enter  quarter  : \n";

    cin >> quarter;

    cout << "Please enter  dollar  : \n";

    cin >> dollar;

    float totalPennies = penny \* Penny + dime \* Dime + nickel \* Nickel + quarter \* Quarter + dollar \* Dollar;

    float totalDollars = totalPennies / 100;

    cout << "Total Pennies : " << totalPennies << "\n";

    cout << "TotalDollars: " << totalDollars << "\n";

#39 Pay reminder

float number;

    short cashPaid, totalBill;

    cout << "Please enter  cash Paid  : \n";

    cin >> cashPaid;

    cout << "Please enter  Total Bill   : \n";

    cin >> totalBill;

    float reminder = cashPaid - totalBill;

    cout << "reminder : " << reminder << "\n";

#40 Service fee and Sales Tax

 float billValue;

    cout << "Please enter  Bill Value   : \n";

    cin >> billValue;

    billValue += (billValue \* 0.1);

    billValue += (billValue \* 0.16);

    cout << "After Service and tax fee , bill will be : " << billValue << "\n";

#42 Task Duration in seconds

   float numOfDays, numOfHours, numOfMinutes, numOfSeconds;

    cout << "Please enter number of days    : \n";

    cin >> numOfDays;

    cout << "Please enter number of hours    : \n";

    cin >> numOfHours;

    cout << "Please enter number of minutes    : \n";

    cin >> numOfMinutes;

    cout << "Please enter number of seconds    : \n";

    cin >> numOfSeconds;

    float totalSecondsFromDays = numOfDays \* 24 \* 60 \* 60;

    float totalSecondsFromHours = numOfHours \* 60 \* 60;

    float totalSecondsFromMinutes = numOfMinutes \* 60;

    float totalSeconds = totalSecondsFromDays + totalSecondsFromHours + totalSecondsFromMinutes + numOfSeconds;

    cout << "Total Seconds : " << totalSeconds;

#43 seconds to Days ,Hours, Minutes ,Seconds

    const float secondsPerDay = 24 \* 60 \* 60;

    const float secondsPerHour = 60 \* 60;

    const float secondsPerMinute = 60;

    float totalSeconds;

    float reminder;

    float numOfSeconds;

    cout << "Please enter totalSeconds   : \n ";

    cin >> totalSeconds;

    float numOfDays = floor(totalSeconds / secondsPerDay);

    reminder = fmod(totalSeconds, secondsPerDay);

    float numOfHour = floor(reminder / secondsPerHour);

    reminder = fmod(reminder, secondsPerHour);

    float numOfMinutes = floor(reminder / secondsPerMinute);

    reminder = fmod(reminder, secondsPerMinute);

    numOfSeconds = reminder;

    cout << numOfDays << " : " << numOfHour << ": " << numOfMinutes << ": " << numOfSeconds;

#47 Loan installment months

    float loanAmount, monthlyPayment;

    cout << "Please enter Loan Amounts   : \n ";

    cin >> loanAmount;

    cout << "Please enter  monthly payment   : \n ";

    cin >> monthlyPayment;

    float monthToSettleLoan = loanAmount / monthlyPayment;

    cout << "Total Months : " << monthToSettleLoan << endl;

#48Monthly loan installment

    float loanAmount, numOfMonths;

    cout << "Please enter Loan Amounts   : \n ";

    cin >> loanAmount;

    cout << "Please enter  num of months   : \n ";

    cin >> numOfMonths;

    float loanPerMonth = loanAmount / numOfMonths;

    cout << "Loan Per Month : " << loanPerMonth << endl;

Use Math

#16 Rectangle Area Through Diagonal and side area