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| #include<stdio.h>#include<math.h>main( ){ float x,y; printf("\nGive a number"); scanf("%f",&x);  y=cos(x);  printf("%f",y);  }  The above program finds the cosine of an angle. However the angle must be specified in radians. If input is 1.05 then output is 0.5. It is because 1.05c is approximately 600. | #include<stdio.h>#include<math.h>main( )  { float x,y,z;  printf("\nGive a number");  printf(" between 1 and 1");  scanf("%f",&x);  y=acos(x);  z=y\*180/3.14;  printf("cos inverse in radians %f",y);  printf(" and in degrees %f",z);  }  Here acos(x) means cos1(x) Input 0.5 output 600. Input .87 output 300 |

1. Write program, which reads a, b and c as sides of a triangle and prints area. Hint: area = . [Hint:  is (a+b+c)/2] [sqrt(x) will find square root]. Input 5 7 10 output 16.24.
2. Write program, which reads x1, y1, x2 and y2 and finds distance between points (x1,y1) and (x2,y2). input 3, 7, 11, 13 output 10.
3. Write program, which reads 6 numbers p, q, r, s, t and u. The program outputs the area of the triangle whose end points are (p,q), (r,s) and (t,u). [Hint: use above two questions]. Input 7 3 11 3 7 6 output 6.
4. Write program, which reads a, b, and c. Let ax + by + c = 0 be equation of a line. The program outputs the slope. Input 3 5 8 output 0.6.
5. Write program, which reads a, b, c, d and e and prints the distance between point (a,b) and line cx+dy+e=0. [Hint: (ac+bd+e)/(c2+d2)1/2.] input 6 7 3 4 2 output 9.6.
6. Write program, which reads a, b, and c. Let x2 + y2 + 2ax + 2by + c = 0 be equation of a circle. Print its center and radius. Input 10, 6 and 2 then output is center (10,6) and radius 11.7. Here circle is x2+y2+20x12y2=0.
7. Write program, which reads a, b, and c. Let x2 + y2 + ax + by + c = 0 be equation of a circle. Print its center and radius. Input 10, 6 and 2 then output is center (5,3) and radius 6. Here circle is x2+y2+10x6y2=0.
8. Write program, which reads a, b, c, p, q and r. Let ax + by + c = 0 and px + qy + r = 0 be equations of lines. Print their point of intersection. Input 4 8 12 2 7 3 output (5,1).
9. Write program, which reads a, b and c as sides of a triangle and prints the angle A in degree. Hint: a2 = b2 + c2 – 2bcCOS(A). [Hint: use acos. Example: input 13, 12, 5 output 90. input 10, 20, 17.32 output 30. input 7, 7, 7 output 60]
10. Write program, which reads h, k, r, and s. Let a circle has center (h,k) and radius r. Let line x=s intersects the circle. The program outputs the chord length. Input 2 4 13 7 output 24. [Hint: find distance of the line from the center].
11. Modify above program to find the area of the triangle formed by the points of intersection and the center of the circle. Input 2 4 13 7 output 12x5=60.
12. Modify above program to output the points of intersection of the circle and the line. Input 2 4 13 7 output (7,16) and (7,-8).
13. Read a, b, c, d, e, f, g, and h. Let ax+by+cz+d=0 be a plane and x2+y2+z2+ex+fy+gz+h=0 be a sphere. Find the area of circle of intersection of the plane and the sphere. e.g. input 3 4 12 17 –4 –2 –2 19 output 50.24. Here the center of the sphere is (2,1,1). Its distance from the plane is 3. The radius of the sphere is 5. Hence the radius of the circle of intersection is 4.