

①

Area of Δ

```
#include <stdio.h>
```

```
#include <math.h>
```

```
int main ()
```

```
{
```

```
    double a, b, c, s, area;
```

```
    printf ( " Enter sides of a triangle \n");
```

```
    scanf ( " %lf %lf %lf", &a, &b, &c);
```

```
    s =  $\frac{(a+b+c)}{2}$ ; // semiperimeter
```

```
    area = sqrt ( s * (s-a) * (s-b) * (s-c) );
```

```
    printf ( " Area of the triangle = %.2lf \n", area);
```

```
    return 0;
```

```
}
```

②

Quadratic 2

#include <stdio.h>

#include <math.h> /* used for sqrt() */

int main()

{

float a, b, c;

float root1, root2, imaginary

float discriminant;

printf("Enter values of a, b, c of quadratic equation ($ax^2 + bx + c$): ");

scanf("%f%f%f", &a, &b, &c);

/* find the discriminant of the equation */

discriminant = $(b * b) - (4 * a * c)$;

/* Find the nature of discriminant */

if (discriminant > 0)

{

root1 = $(-b + \text{sqrt}(\text{discriminant})) / (2 * a)$;root2 = $(-b - \text{sqrt}(\text{discriminant})) / (2 * a)$;

printf("Two distinct and real roots exist: %.2f and %.2f", root1, root2);

}

else if (discriminant == 0)

{

root1 = root2 = $-b / (2 * a)$;

```
printf ("Two equal and real roots exist : %.2f
and %.2f", root1, root2);
else if (discriminant < 0)
```

```
{ root1 = root2 = -b / (2*a);
imaginary = sqrt (-discriminant) / (2*a);
```

```
printf ("Two distinct complex roots exist : %.2f
+ j %.2f
and %.2f - j %.2f",
root1, imaginary, root2, imaginary);
}
```

```
return 0;
```

```
}
```

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② / * average of three * /

#include <stdio.h>

#include <conio.h>

void main()

{

int m1, m2, m3;

float avg;

clrscr();

printf("\nEnter Three Numbers: ");

scanf("%d %d %d", &m1, &m2, &m3);

avg = (m1 + m2 + m3) / 3;

printf("\n AVERAGE: %0.2f", avg);

getch();

}

⑨

/* to find the smallest of 3 numbers */

#include <stdio.h>

#include <conio.h>

void main()

{

int a, b, c, sm1;

sm1 = 0;

printf("enter 3 numbers\n");

scanf("%d %d %d", &a, &b, &c);

if (a <= b)

{

if (b <= c)

sm1 = a;

else if (c <= a)

sm1 = c;

}

else

{

if (c >= b)

sm1 = b;

else

sm1 = c;

}

printf("The smallest number is %d", sm1);

getch();

}