



```
1  #include <iostream>
2  using namespace std;
3
4  class Polygon {
5      public:
6          float width;
7          float height;
8
9          virtual float area() =0;
10 };
11
12 class rectangle : public Polygon {
13     public:
14         rectangle(float w, float h)
15     {
16         width = w;
17         height = h;
18     }
19     float area()
20     {
21         return width * height;
22     }
23 };
24
25 class triangle : public Polygon {
26     public:
27         triangle(float w, float h)
28     {
29         width = w;
30         height = h;
31     }
32     float area()
33     {
34         return 0.5 * width * height;
35     }
36 };
37
38 int main ()
39 {
40     rectangle r1(50, 20);
41     triangle t1(15, 20);
42
43     Polygon *ptr;
44
45     ptr = &r1;
46     cout << "Rectangle Area: " << ptr->area
47         () << endl;
48
49     ptr = &t1;
50     cout << "Triangle Area: " << ptr->area
51         () << endl;
52
53     return 0;
54 }
```

/tmp/VMNVqz0aVg.o  
Rectangle Area: 1000  
Triangle Area: 150

=== Code Execution Successful ===



```
1  #include <iostream>
2  using namespace std;
3
4  class A {
5      public:
6      int x;
7      virtual void test() = 0;
8  };
9
10 class B: public A {
11     public:
12     int y;
13 };
14
15 class C: public B {
16     public:
17     int z;
18
19     C (int x, int y, int z)
20     {
21         this->x = x;
22         this->y = y;
23         this->z = z;
24     }
25
26     void test() {
27         cout << "x: " << x << endl;
28         cout << "y: " << y << endl;
29         cout << "z: " << z << endl;
30     }
31 };
32
33 int main ()
34 {
35     C c1(10, 20, 30);
36     A *ptr;
37
38     ptr = &c1;
39     ptr->test();
40
41     return 0;
42 }
```

/tmp/ZL4meC2sTT.o

x: 10

y: 20

z: 30

=== Code Execution Successful ===