```
%1.3.3
clc

clear all

x = [1 1 -1 -1]

y = [-1 1 1 -1]

A = polyarea(x,y)

x = [0 1 -1]

y = [2 0 0]

A = polyarea(x,y)
%The question asks for an equilater triangle but I could not figure
 out how
%to represent that with integer coordinates(of which our function
 requires)

function A = polyarea(x,y)
    n = size(x,2)

    x(n+1) = x(1)

    y(n+1) = y(1)

    sum = 0

    for i =1:n
        sum = sum + x(i)*y(i+1)-x(i+1)*y(i)
    end

    A = abs(sum)/2


end


x =

     1     1    -1    -1


y =

    -1     1     1    -1


n =
```

```
     4

x =

     1     1    -1    -1     1

y =

    -1     1     1    -1    -1

sum =

     0

sum =

     2

sum =

     4

sum =

     6

sum =

     8

A =

     4

A =

     4

x =

     0     1    -1

y =
```

```
     2     0     0

n =

     3

x =

     0     1    -1     0

y =

     2     0     0     2

sum =

     0

sum =

    -2

sum =

    -2

sum =

    -4

A =

     2

A =

     2
```

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