





LOCALS

# Area of a triangle using Heron's formula

! given length of sides:  $a$   $b$   $c$   
!  $area = \sqrt{p * p-a * p-b * p-c}$   
! where  $p = (a + b + c)/2$  is perimeter

```
: triangle-area ( a b c -- area )
  3dup + + 2 /          ! a b c p
  [ swap - ] keep [ rot ] dip ! b p-c a p
  [ swap - ] keep [ rot ] dip ! p-c p-b a p
  [ swap - ] keep       ! p-c p-b p-a p
  * * * sqrt ;
```

## Area of a triangle using Herons formula

```
! given length of sides: a b c
! area = sqrt(p * p-a * p-b * p-c)
! where p = (a + b + c)/2 is perimeter
: triangle-area ( a b c -- area )
  3dup + + 2 /                ! a b c p
  [ swap - ] keep [ rot ] dip ! b p-c a p
  [ swap - ] keep [ rot ] dip ! p-c p-b a p
  [ swap - ] keep             ! p-c p-b p-a p
  * * * sqrt ;
```

# LOCALS

---

Area of a triangle using Heron's formula

```
! given length of sides: a b c
! area = sqrt(p * p-a * p-b * p-c)
! where p = (a + b + c)/2 is perimeter
: triangle-area (a b c -- area)
  3dup + + 2 / . a b c p
  [ swap - ] keep [ rot ] dip ! b p-c a p
  [ swap - ] keep [ rot ] dip ! p-c p-b a p
  [ swap - ] keep [ rot ] dip ! p-c p-b p-a p
  * * * sqrt ;
```