

Youtube video : [polygon python code HD 1080 WEB H264 4000 - YouTube](#)

Python code:

```
from functools import reduce
```

```
#list of polygon/triangle
```

```
polygon = [(3,4,5),(6,8,10),(3,5,3,5),(2,6,9),(7,8,9)]
```

```
#write a function name that retruns perimeter of given polygpn
```

```
def poly_sum(polygon):
```

```
    return reduce(lambda x, y: x + y , polygon)
```

```
#use the standard filter function to generate a list of only right triangles
```

```
def is_right_triangle(triangle):
```

```
    a,b,c = sorted(triangle)
```

```
    return a**2 + b**2 == c**2
```

```
print("list of polygons: ")
```

```
print(polygon)
```

```
#second filter function to generate a list of only triangles
```

```
triangles = filter(lambda x: len(x) == 3, polygon)
```

```
print("Triangles from orginal list: ")
```

```
print(list(triangles))
```

```
#filter to select only right angle triangle
```

```
right_triangles = filter(is_right_triangle, triangles)
```

```
print("Right triangles from list: ")
```

```
print(list(right_triangles))
```

```
#map to compute perimeter of right triangles
perimeters = map(poly_sum, right_triangles)
print("Perimeters of the right triangles: ")
print(list(perimeters))
```