Question 15

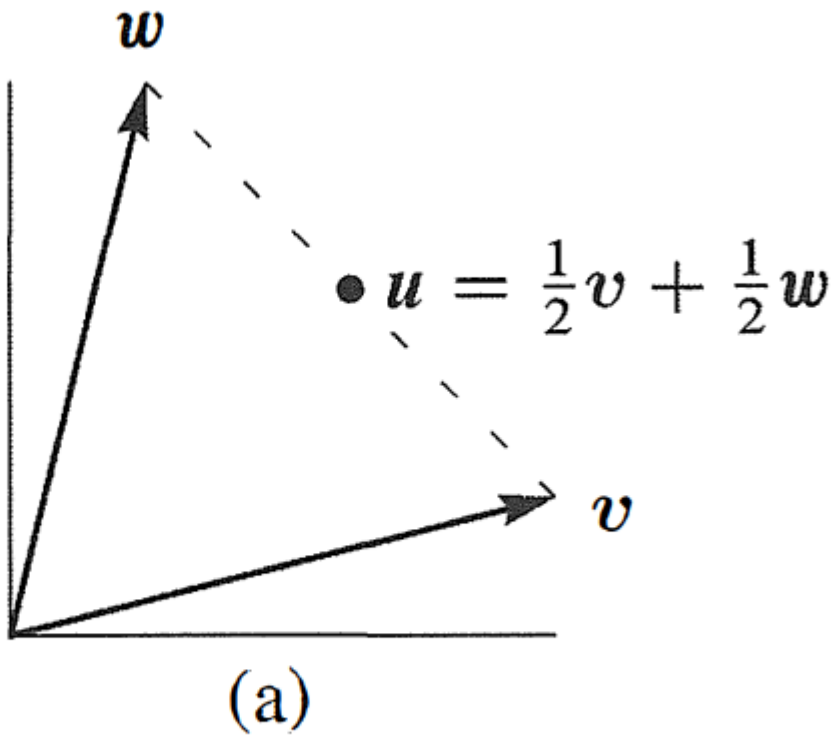
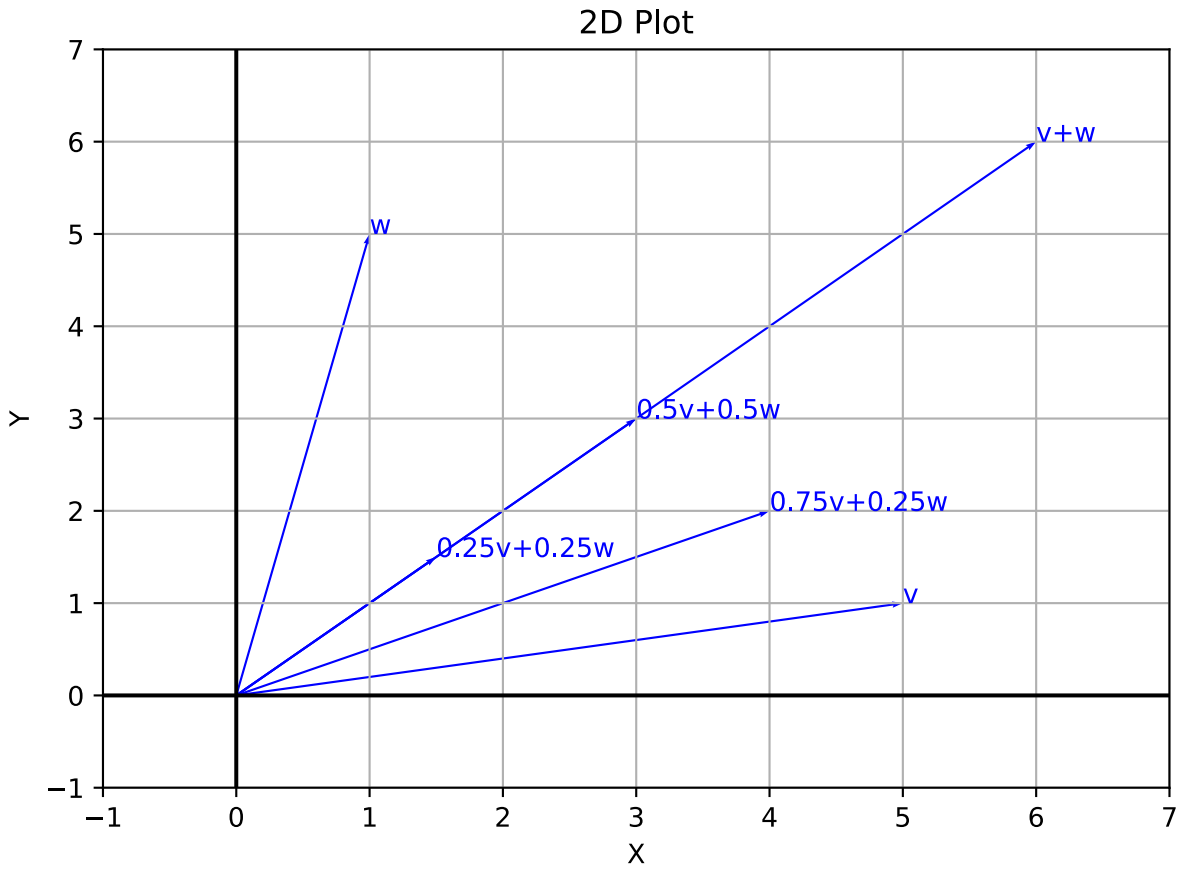


Figure 1.5: Problems **15–19** in a plane

15 Figure 1.5a shows $\frac{1}{2}\,v + \frac{1}{2}\,w$. Mark the points $\frac{3}{4}\,v + \frac{1}{4}\,w$ and $\frac{1}{4}\,v + \frac{1}{4}\,w$ and $v + w$.

Answer:


2D Plot
v+w
w
0.5v+0.5w
0.75v+0.25w
0.25v+0.25w
v
Y
X
7
6
5
4
3
2
1
0
−1
−1
0
1
2
3
4
5
6
7

```
import sys

sys.path.append('./src')
from libs.geometryobjects import Vector
from libs.plots import Plot2D

pl = Plot2D(plot_array=False, plot_name=True)
v = Vector([5, 1], 'v')
w = Vector([1, 5], 'w')
vecs = [
    v,
    w,
    0.5 * v + 0.5 * w,
    0.75 * v + 0.25 * w,
    0.25 * v + 0.25 * w,
    v + w
]
pl.plot_vectors(vecs)
pl.savefig(__file__.replace('.py', '.svg'))
pl.show()
```

Solution: