

P1:1; P2:t; P3:1-t;

Warning: Can set maxima's working directory but cannot change it during the maxi

1
t
1-t

'integrate((P1·P2),t,-1,1)/(sqrt('integrate((P1·P1),t,-1,1))·sqrt('integrate((P2·P2),t,-1,1)));

$$\frac{\int_{-1}^1 t \, dt}{\sqrt{2} \sqrt{\int_{-1}^1 t^2 \, dt}}$$

ev(%,integrate);

0

acos(%,numer;

1.570796326794897

'integrate((P1·P3),t,-1,1)/(sqrt('integrate((P1·P1),t,-1,1))·sqrt('integrate((P3·P3),t,-1,1)));

$$\frac{\int_{-1}^1 1-t \, dt}{\sqrt{2} \sqrt{\int_{-1}^1 (1-t)^2 \, dt}}$$

ev(%,integrate);

$\frac{\sqrt{3}}{2}$

acos(%,numer;

0.5235987755982989

'integrate((P3·P2),t,-1,1)/(sqrt('integrate((P3·P3),t,-1,1))·sqrt('integrate((P2·P2),t,-1,1)));

$$\frac{\int_{-1}^1 (1-t) t \, dt}{\sqrt{\int_{-1}^1 (1-t)^2 \, dt} \sqrt{\int_{-1}^1 t^2 \, dt}}$$

ev(%,integrate);

$-\frac{1}{2}$

acos(%,numer;

2.094395102393196

'integrate((P1·P2),t,0,1)/(sqrt('integrate((P1·P1),t,0,1))·sqrt('integrate((P2·P2),t,0,1)));

$$\int_0^1 t \, dt$$

$$\sqrt{\int_0^1 t^2 \, dt}$$

$$\frac{\sqrt{3}}{2}$$

$$\arccos\left(\frac{\sqrt{3}}{2}\right)$$
0.5235987755982989

$$\frac{\int_0^1 (P1 \cdot P3) \, dt}{\sqrt{\int_0^1 (P1 \cdot P1) \, dt} \cdot \sqrt{\int_0^1 (P3 \cdot P3) \, dt}}$$

$$\int_0^1 1-t \, dt$$

$$\sqrt{\int_0^1 (1-t)^2 \, dt}$$

$$\frac{\sqrt{3}}{2}$$

$$\arccos\left(\frac{\sqrt{3}}{2}\right)$$
0.5235987755982989

$$\frac{\int_0^1 (P3 \cdot P2) \, dt}{\sqrt{\int_0^1 (P3 \cdot P3) \, dt} \cdot \sqrt{\int_0^1 (P2 \cdot P2) \, dt}}$$

$$\int_0^1 (1-t) \, dt$$

$$\sqrt{\int_0^1 (1-t)^2 \, dt} \sqrt{\int_0^1 t^2 \, dt}$$

$$\frac{1}{2}$$

$$\arccos\left(\frac{1}{2}\right)$$
1.047197551196598