Figures that illustrate two rectangular factorizations of a bivector in R3.

```
<< peeters`

(*relative to ~/physicsplay*)
peeters`setGitDir[ "../project/figures/GAelectrodynamics" ]
peeters`

/Users/pjoot/project/figures/GAelectrodynamics

ClearAll[a, b, c, d, ab, cd, o]

a = {1, 1, -2};
b = {-1, 1, 0} / 2;
ab = Cross[a, b] // Normalize
c = {0, -1, 1} / 2;
d = {2, -1, -1};
cd = Cross[c, d] // Normalize
o = {0, 0, 0};

(*check*)
(*a.b
 a.ab
 b.ab

 c.d
 c.cd
 d.cd*)

Graphics3D[{
  Parallelepiped[o, {a, b, ab / 50}],
  Parallelepiped[o, {c, d, cd / 50}],
  Red // Darker,
  Arrowheads[0.05],
  Arrow[Tube[{o, a}, 0.03]],
  Arrow[Tube[{a, a + b}, 0.03]],
  Blue // Darker,
  Arrow[Tube[{o, c}, 0.03]],
  Arrow[Tube[{c, c + d}, 0.03]]
 }
]
```
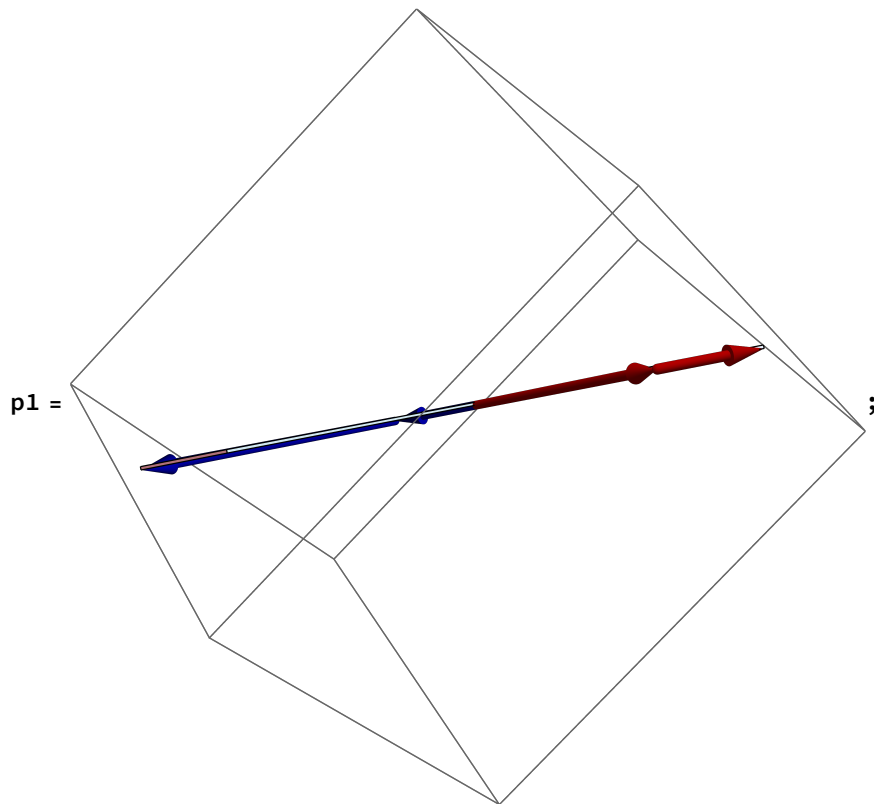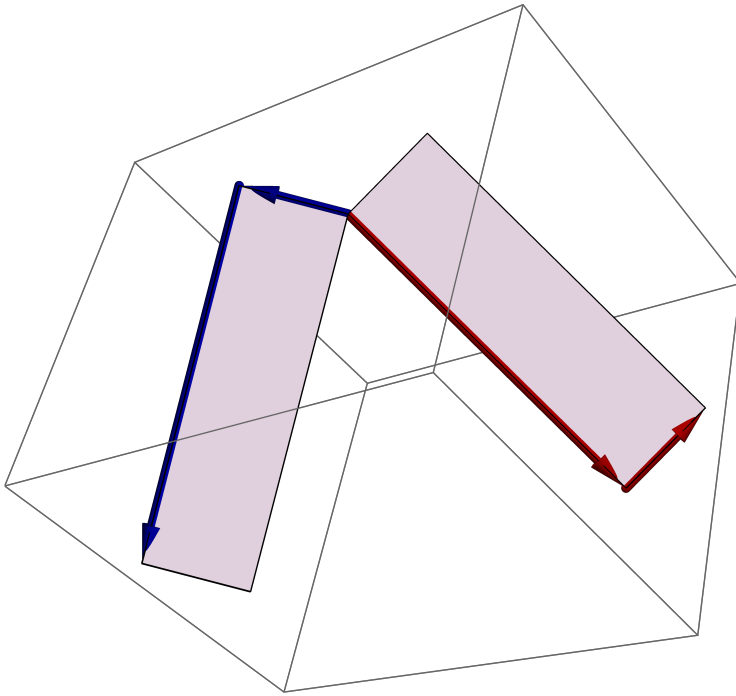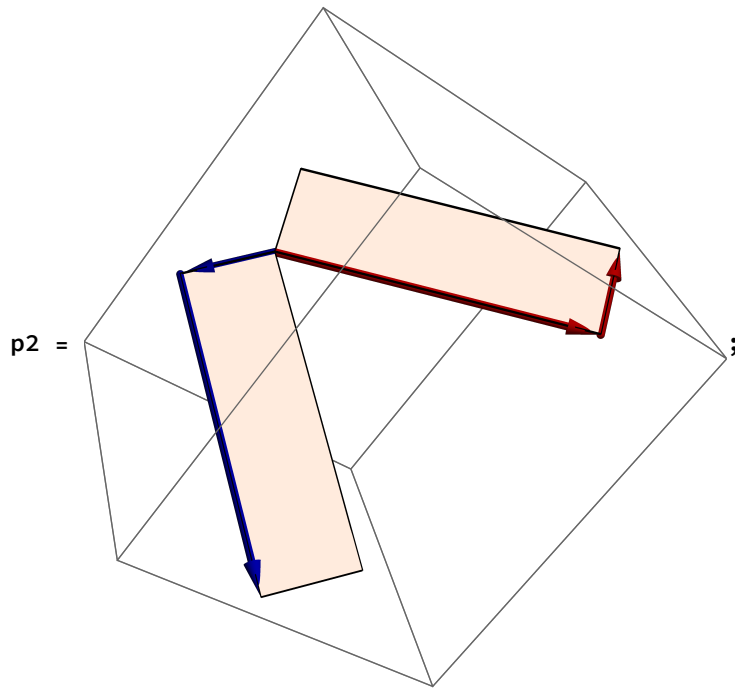
$$\left\{ \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}} \right\}$$

$$\left\{ \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}} \right\}$$

p1 = ;

p2 = ;

```
peeters`exportForLatex["bivectorFactorizationFig1", p1]
peeters`exportForLatex["bivectorFactorizationFig2", p2]
```

{bivectorFactorizationFig1.eps, bivectorFactorizationFig1pn.png}

{bivectorFactorizationFig2.eps, bivectorFactorizationFig2pn.png}