

Verify answers for normal factorization problem. 2.16

```
<< CliffordBasic`;  
$SetSignature = {3, 0};  
  
a = -(e[2] - e[3])  
b = e[1] - e[2] / 2 - e[3] / 2
```

```
(*InnerProduct[a,b]  
  OuterProduct[a,b]*)  
GeometricProduct[a, b]
```

$-e[2] + e[3]$

$e[1] - \frac{e[2]}{2} - \frac{e[3]}{2}$

$e[1, 2] - e[1, 3] + e[2, 3]$

$c = e[1] - e[3]$

$d = e[2] - e[3]$

$cp = c - \text{InnerProduct}[c, d] d / \text{InnerProduct}[d, d] // \text{Simplify}$

```
(*InnerProduct[c,d]  
  OuterProduct[c, d]*)  
(*InnerProduct[cp,d]  
  OuterProduct[cp, d]*)  
GeometricProduct[cp, d]
```

$e[1] - e[3]$

$e[2] - e[3]$

$e[1] - \frac{e[2]}{2} - \frac{e[3]}{2}$

$e[1, 2] - e[1, 3] + e[2, 3]$

```
m = e[1] + e[2] - 2 e[3]  
n = (e[2] - e[1]) / 2
```

```
GeometricProduct[m, n]
```

```
e[1] + e[2] - 2 e[3]
```

```

$$\frac{1}{2} (-e[1] + e[2])$$

```

```
e[1, 2] - e[1, 3] + e[2, 3]
```