```
>
> mes := ⟨⟨m1, m2, m3⟩⟩
```

$$mes := \begin{bmatrix} m1 \\ m2 \\ m3 \end{bmatrix} \tag{1}$$

```
> B := ⟨⟨t7, t8, t9⟩⟩
```

$$B := \begin{bmatrix} t7 \\ t8 \\ t9 \end{bmatrix} \tag{2}$$

```
>
> T := ⟨⟨t1, t2, t4⟩|⟨0, t3, t5⟩|⟨0, 0, t6⟩⟩
```

$$T := \begin{bmatrix} t1 & 0 & 0 \\ t2 & t3 & 0 \\ t4 & t5 & t6 \end{bmatrix} \tag{3}$$

```
> modelVector := LinearAlgebra[Multiply](T, mes) − B
```

$$modelVector := \begin{bmatrix} m1\,t1 - t7 \\ m1\,t2 + m2\,t3 - t8 \\ m1\,t4 + m2\,t5 + m3\,t6 - t9 \end{bmatrix} \tag{4}$$

```
> modelFonctionnel := modelVector[1, 1]·modelVector[1, 1] + modelVector[2, 1]
      ·modelVector[2, 1] + modelVector[3, 1]·modelVector[3, 1]
```

$$modelFonctionnel := (m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2 \tag{5}$$

```
>
>
> model := (t1, t2, t3, t4, t5, t6, t7, t8, t9) → ((m1 t1 − t7)^2 + (m1 t2 + m2 t3 − t8)^2 + (m1 t4
      + m2 t5 + m3 t6 − t9)^2)^0.5
```

$$model := (t1, t2, t3, t4, t5, t6, t7, t8, t9) \rightarrow \left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5} \tag{6}$$

```
>
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t1)
```

$$\frac{1.0\,(m1\,t1 - t7)\,m1}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \tag{7}$$

```
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t2)
```

$$\frac{1.0\,(m1\,t2 + m2\,t3 - t8)\,m1}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \tag{8}$$

```
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t3)
```

$$\frac{1.0\,(m1\,t2 + m2\,t3 - t8)\,m2}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \tag{9}$$

```
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t4)
```

$$\frac{1.0\,(m1\,t4 + m2\,t5 + m3\,t6 - t9)\,m1}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (10)$$

```
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t5)
```

$$\frac{1.0\,(m1\,t4 + m2\,t5 + m3\,t6 - t9)\,m2}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (11)$$

```
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t6)
```

$$\frac{1.0\,(m1\,t4 + m2\,t5 + m3\,t6 - t9)\,m3}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (12)$$

```
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t7)
```

$$\frac{0.5\,(-2\,m1\,t1 + 2\,t7)}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (13)$$

```
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t8)
```

$$\frac{0.5\,(-2\,m1\,t2 - 2\,m2\,t3 + 2\,t8)}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (14)$$

```
> diff(model(t1, t2, t3, t4, t5, t6, t7, t8, t9), t9)
```

$$\frac{0.5\,(-2\,m1\,t4 - 2\,m2\,t5 - 2\,m3\,t6 + 2\,t9)}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (15)$$

```
>
>
> model := (m1, m2, m3) → ((m1 t1 - t7)^2 + (m1 t2 + m2 t3 - t8)^2 + (m1 t4 + m2 t5 + m3 t6
      - t9)^2)^0.5
```

$$model := (m1, m2, m3) \to \left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5} \quad (16)$$

```
>
> diff(model(m1, m2, m3), m1)
```

$$\frac{0.5\,(2\,(m1\,t1 - t7)\,t1 + 2\,(m1\,t2 + m2\,t3 - t8)\,t2 + 2\,(m1\,t4 + m2\,t5 + m3\,t6 - t9)\,t4)}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (17)$$

```
> diff(model(m1, m2, m3), m2)
```

$$\frac{0.5\,(2\,(m1\,t2 + m2\,t3 - t8)\,t3 + 2\,(m1\,t4 + m2\,t5 + m3\,t6 - t9)\,t5)}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (18)$$

```
> diff(model(m1, m2, m3), m3)
```

$$\frac{1.0\,(m1\,t4 + m2\,t5 + m3\,t6 - t9)\,t6}{\left((m1\,t1 - t7)^2 + (m1\,t2 + m2\,t3 - t8)^2 + (m1\,t4 + m2\,t5 + m3\,t6 - t9)^2\right)^{0.5}} \quad (19)$$

```
>
>
```