Step Z & A

In[1]:=
```
A[Fxu_, Fu_, Fxs_, Fs_] = (Fxu / Fu) / (Fxs / Fs)
```

Out[1]=
$$\frac{Fs\ Fxu}{Fu\ Fxs}$$

In[2]:=
```
D[A[Fxu, Fu, Fxs, Fs], Fxu] / A[Fxu, Fu, Fxs, Fs]
```

Out[2]=
$$\frac{1}{Fxu}$$

In[9]:=
```
Simplify[D[A[Fxu, Fu, Fxs, Fs], Fxu] == A[Fxu, Fu, Fxs, Fs] / Fxu]
```

Out[9]= True

In[3]:=
```
D[A[Fxu, Fu, Fxs, Fs], Fu] / A[Fxu, Fu, Fxs, Fs]
```

Out[3]=
$$-\frac{1}{Fu}$$

In[10]:=
```
Simplify[D[A[Fxu, Fu, Fxs, Fs], Fu] == -A[Fxu, Fu, Fxs, Fs] / Fu]
```

Out[10]= True

In[4]:=
```
D[A[Fxu, Fu, Fxs, Fs], Fxs] / A[Fxu, Fu, Fxs, Fs]
```

Out[4]=
$$-\frac{1}{Fxs}$$

In[11]:=
```
Simplify[D[A[Fxu, Fu, Fxs, Fs], Fxs] == -A[Fxu, Fu, Fxs, Fs] / Fxs]
```

Out[11]= True

In[5]:=
```
D[A[Fxu, Fu, Fxs, Fs], Fs] / A[Fxu, Fu, Fxs, Fs]
```

Out[5]=
$$\frac{1}{Fs}$$

In[12]:=
```
Simplify[D[A[Fxu, Fu, Fxs, Fs], Fs] == A[Fxu, Fu, Fxs, Fs] / Fs]
```

Out[12]= True

In[14]:=
```
Z[Fu_, Fs_] = Fu / Fs
```

Out[14]=
$$\frac{Fu}{Fs}$$

In[15]:=
```
D[Z[Fu, Fs], Fu]
```

Out[15]=
$$\frac{1}{Fs}$$

In[16]:=
```
Simplify[D[Z[Fu, Fs], Fu] == 1 / Fs]
```

Out[16]=
```
True
```

In[8]:=
```
D[Z[Fu, Fs], Fs]
```

Out[8]=
$$-\frac{\text{Fu}}{\text{Fs}^2}$$

In[18]:=
```
Simplify[D[Z[Fu, Fs], Fs] == -Z[Fu, Fs] / Fs]
```

Out[18]=
```
True
```