In[2]:=
```
Integrate[Exp[-2 k d ], {k, 0, ∞}, Assumptions → {Element[d, Reals], d > 0}]
```

Out[2]=
$$\frac{1}{2\,d}$$

In[3]:=
```
Integrate[k Exp[-2 k d ], {k, 0, ∞}, Assumptions → {Element[d, Reals], d > 0}]
```

Out[3]=
$$\frac{1}{4\,d^2}$$

In[4]:=
```
Integrate[k^2 Exp[-2 k d ], {k, 0, ∞}, Assumptions → {Element[d, Reals], d > 0}]
```

Out[4]=
$$\frac{1}{4\,d^3}$$