Lösungen D 02 2011

Alles SI-Einheiten (m, sec,...)

Lösung mit dem Energiesatz:
E pot = m g (2/3 s cos(50 Altgtad)) = E kin = 1/ 2 m v^2 ==> v =...

In[40]:=
```
Remove["Global`*"]
```

In[41]:=
```
m = 2 kg;
g = 9.81 Meter / sec^2;
s = 2 Meter;
```

In[44]:=
```
gleichung = (m g 2 / 3 s Cos[50 Degree] == 1 / 2 m v^2)
```

Out[44]=
$$\frac{16.8153\ \text{kg}\ \text{Meter}^2}{\text{sec}^2} == \text{kg}\ v^2$$

In[45]:=
```
solv = Solve[gleichung, {v}] // Flatten
```

Out[45]=
$$\left\{v \to -\frac{4.10065\ \text{Meter}}{\text{sec}}, v \to \frac{4.10065\ \text{Meter}}{\text{sec}}\right\}$$

In[46]:=
```
v = v /. solv[[2]]
```

Out[46]=
$$\frac{4.10065\ \text{Meter}}{\text{sec}}$$

In[47]:=
```
NumericRound[x_] := MapAll[If[NumericQ[#], Round[10 #] / 10 // N, #] &, x];
vGerundet = NumericRound[v];
vGerundet
```

Out[49]=
$$\frac{4.1\ \text{Meter}}{\text{sec}^{1.}}$$