

Quaderberechnungen

Dokumentnummer: DX1106

Fachgebiet: Geometrie, Formeln, Gleichungen, Oberfläche,
Volumen

Quelle: <http://www.edhelper.com>

1 Aufgabenstellung

Bestimme in den folgenden Quadern die fehlenden Größen.

2 Lösungen

2.1 Aufgabe

Figure 1:

length	9
width	_____
height	8
surface area	484
volume	_____
length	9
width	10
height	8
surface area	484
volume	720

```
(%i8) kill(all);  
(%o0) done
```

```
(%i1) l:9;h:8;O:484;  
(%o1) 9  
(%o2) 8  
(%o3) 484
```

```
(%i4) g:O=2*(l*b+l*h+b*h);  
(%o4) 484 = 2 (17 b + 72)
```

```
(%i5) ls:solve(g,b);
```

```
(%o5) [b = 10]
```

```
(%i6) b:ev(b,ls);
```

```
(%o6) 10
```

```
(%i7) V:l*b*h;
```

```
(%o7) 720
```

2.2 Aufgabe

Figure 2:

length	14.38
width	4.5
height	9.79
surface area	_____
volume	_____
length	14.38
width	4.5
height	9.79
surface area	499.0904
volume	633.5109

```
(%i1) kill(all);
```

```
(%o0) done
```

```
(%i2) l:14.38;b:4.5;h:9.79;
```

```
(%o2) 14.38
```

```
(%o3) 4.5
```

```
(%o4) 9.789999999999999
```

```
(%i5) O:2*(l*b+l*h+b*h);
```

```
(%o5) 499.0904000000001
```

```
(%i6) V:l*b*h;
```

```
(%o6) 633.5109
```

2.3 Aufgabe

Figure 3:

length	7
width	4.36
height	_____
surface area	_____
volume	402.864
length	7
width	4.36
height	13.2
surface area	360.944
volume	402.864

```
(%i7) kill(all);
```

```
(%o0) done
```

```
(%i1) l:7;b:4.36;V:402.864;
```

```
(%o1) 7
```

```
(%o2) 4.36
```

```
(%o3) 402.864
```

```
(%i4) g:V=l*b*h;
```

```
(%o4) 402.864 = 30.52 h
```

```
(%i6) ls:solve(g,h),numer;
```

```
rat: replaced 402.864 by 50358/125 = 402.864
```

```
rat: replaced -30.52 by -763/25 = -30.52
```

```
rat: replaced 402.864 by 50358/125 = 402.864
```

```
rat: replaced -30.52 by -763/25 = -30.52
```

```
rat: replaced -6.104 by -763/125 = -6.104
```

```
rat: replaced -13.2 by -66/5 = -13.2
```

```
(%o6) [h = 13.2]
```

```
(%i7) h:ev(h,ls);
```

```
(%o7) 13.2
```

Einfache Berechnungen am Quader

(%i8) $0:2*(l*b+l*h+b*h);$

(%o8) 360.944

Created with [wxMaxima](#).