

```
> restart;
```

```
> #Working problem #2 on Sample Exam 1A as a demonstration of how to use  
Maple.
```

```
> eq1:=h/w=b/(w+27);  
eq2:=h=sqrt(w^2+8^2);
```

$$eq1 := \frac{h}{w} = \frac{b}{w + 27}$$

$$eq2 := h = \sqrt{w^2 + 64}$$

```
> B:=solve(eq1,b);
```

$$B := \frac{h(w + 27)}{w}$$

```
> v:=subs(eq2,B);
```

$$v := \frac{\sqrt{w^2 + 64} (w + 27)}{w}$$

```
> dbdw:=diff(v,w);
```

$$dbdw := \frac{w + 27}{\sqrt{w^2 + 64}} - \frac{\sqrt{w^2 + 64} (w + 27)}{w^2} + \frac{\sqrt{w^2 + 64}}{w}$$

```
> dbdws:=simplify(dbdw);
```

$$dbdws := \frac{w^3 - 1728}{\sqrt{w^2 + 64} w^2}$$

```
> s:=solve(dbdws=0,w);
```

$$s := 12, -6 + 6 I \sqrt{3}, -6 - 6 I \sqrt{3}$$

```
> ans:=subs(w=s[1],v);
```

$$ans := \frac{13}{4} \sqrt{208}$$

```
> simplify(ans);
```

$$13 \sqrt{13}$$

```
>
```