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Maxima 5.13.0 http://maxima.sourceforge.net
Using Lisp GNU Common Lisp (GCL) GCL 2.6.7 (aka GCL)
Distributed under the GNU Public License. See the file COPYING.
Dedicated to the memory of William Schelter.
This is a development version of Maxima. The function bug_report()
provides bug reporting information.
```

These are solutions to Quiz 4 from Honor's Calculus II redone with Maxima in place of Maple.

```
(%i1) R2:(25/2)^2-(25/2-h)^2;
```

$$(\%o5)\quad \frac{625}{4}-\left(\frac{25}{2}-h\right)^2$$

```
(%i6) r2:(7/2)^2-(7/2-h)^2;
```

$$(\%o6)\quad \frac{49}{4}-\left(\frac{7}{2}-h\right)^2$$

```
(%i7) %pi*integrate(R2-r2,h,0,x);
```

$$(\%o7)\quad 9\,\pi\,x^2$$

```
(%i8) diff(log(cos(x)^2+1),x);
```

$$(\%o8)\quad -\frac{2\cos\left(x\right)\sin\left(x\right)}{\cos\left(x\right)^2+1}$$

```
(%i9) integrate(x/exp(x^2),x,0,1);
```

$$(\%o9)\quad \frac{1}{2}-\frac{\mathrm{e}^{-1}}{2}$$

```
(%i10) f:1/3*sqrt(x)*(3-x);
```

$$(\%o10)\quad \frac{\left(3-x\right)\sqrt{x}}{3}$$

```
(%i11) df:diff(f,x);
```

$$(\%o11)\quad \frac{3-x}{6\sqrt{x}}-\frac{\sqrt{x}}{3}$$

```
(%i12) integrate(2*%pi*f*sqrt(1+df^2),x,0,3);
```

$$(\%o12)\quad 3\,\pi$$

```
(%i13)
```