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Silly rounding error

Try out the following code:

```
beginfig(1);  
65 = 195*1/3;  
endfig;
```

Metapost will give you an error!

```
! Inconsistent equation (off by -0.00099).
```

This error is caused by accumulated rounding errors. In fact, even

```
show 1=3*1/3;
```

would already report **false**.

The fraction $1/3$ is internally represented as $21845/65536$, and three times that is $65535/65536$, one short of the mark (btw, most fractional numbers deteriorate faster than $1/3$). If you create the error 65 times, you end up with a deviation of $65/65536$, and that is what triggers the ‘inconsistent equation’ error handler.

What makes this particularly funny is that the web source says:

```
if abs(value(p))>64 then {off by .001 or more}  
begin print_err("Inconsistent equation");@/  
print(" (off by "); print_scaled(value(p)); print_char(")");  
help2("The equation I just read contradicts what was said before.")@/  
  ("But don't worry; continue and I'll just ignore it.");  
put_get_error;  
end
```

But the $65/65536 = 0.0009918212890625$, not 0.001