

# Powers of 5

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*Source:* <http://sci.tech-archive.net/Archive/sci.math/2006-09/msg00799.html>

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  - *Date:* 4 Sep 2006 16:15:39 -0700
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Hi, I'm an undergrad studying computer science. I discovered, while studying for a computer science final, that I still haven't come up with an answer to a question that was offered as extra credit on our first quiz in the course. We were given the following Pascal code.

```
function power(n: integer): integer;
begin
if n <= 1 then
return (5)
else
return (5 * power(n-1))
end; {power}
```

We were then asked: "Can you modify the function in such a way that for arguments of the form  $2^k$  it computes the result with just  $k+1$  calls?" I'm not especially adept with math, and I have no idea how to approach the question. Please point me in the right direction; I would really like to understand this.

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Josh Zenker

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