Dr Oliver Mathematics
Proportion: Part 1

1. When $t = 2$, $N = 300$.

   Gail thinks that N is directly proportional to the square of t.
   She finds a formula for N in terms of t.

   (a) Work out the value of N when $t = 4$ using Gail's formula. (4)

   Megan thinks that Gail is wrong.
   She thinks that the formula
   $$N = 75 \times 2^t$$
   should be used.

   When $t = 6$, $N = 4\,800$.

   (b) Showing your working clearly, find out which formula fits these values. (2)