```matlab
% test vectors, exs.:
% x=[1:10]; y=x; q=x;
% --> result = -1.3168e+13
% x=ones(1,10); y=x; q=x;
% --> result = 35

function result=fc3(q,x,y)
  N=length(x); %same length: x, y
  M=length(q);
  S=0;
  for i=1:N-1
    S=S+x(i)+3*y(i+1);
  end
  P=1;
  for i=1:M
    P=P*(q(i)*q(i));
  end
  result=S-P;
end
```