

# Facitliste

## Opgave 1

1)  $f_1'(x) = 2x\sqrt{x} + \frac{x^2}{2\sqrt{x}}$

2)  $f_2'(x) = 6 + \log(x^2)3$

3)  $f_3'(x) = x^2 + 3\log(x)x^2 + \frac{1}{\sqrt{2x}}$

4)  $f_4'(x) = 30 \left( \frac{2x}{1 + 10\sqrt{x}} - \frac{x^2}{2\sqrt{x}(1 + 10\sqrt{x})^2} \right)$

5)  $f_5'(x) = \frac{3x^2}{e^{2x}} - \frac{1 + x^3}{e^{4x}}2e^{2x}$

6)  $f_6'(x) = \frac{10}{3}x^{\frac{7}{3}}$

## Opgave 2

i)  $b = 5m, l = 10m, A = lb = 50m^2$ .

ii)  $b = \sqrt[3]{4}m, h = \sqrt[3]{4}m, O = 6\sqrt[3]{4}m^2$ .

iii)  $b = l = 2500m, A = 2500^2m^2$