

```

clear all
format compact
format long e

disp('Tal 2.6 - Newton-Raphson')

x = 1.5
dx = 1;

while(abs(dx) > 0.5e-10)
    p = 4*x.^4 - 7 *x.^3 + 5.5*x.^2 + 27.5*x - 50;
    dp = 16*x.^3 - 21*x.^2 + 11*x + 27.5;

    dx = p/dp;
    x = x - dx;

    disp([x dx])
end

disp('Lösning mha roots')

roots([4 -7 5.5 27.5 -50])

```

```

function p = poly(x)

p = 4*x.^4 - 7 *x.^3 + 5.5*x.^2 + 27.5*x - 50

```

```

function p = dpoly(x)

p = 16*x.^3 - 21*x.^2 + 11*x + 27.5

```

```

>> nr
Tal 2.6 - Newton-Raphson
x =
    1.5000000000000000e+00
    1.495073891625616e+00    4.926108374384237e-03
    1.495060470557926e+00    1.342106768928459e-05
    1.495060470458900e+00    9.902652495753050e-11
    1.495060470458900e+00   -1.407722559155601e-16
Lösning mha roots
ans =
   -1.792573726649236e+00
    1.023756628095168e+00 + 1.901602172240489e+00i
    1.023756628095168e+00 - 1.901602172240489e+00i
    1.495060470458900e+00

```