zad. 1.3

January 14, 2022

[7]:
```
exact = -14.636489
x = Float16(4.71)
w = Float16(x^3 - 6.0*x^2 + 3.0*x - 0.149)
error = abs(w - exact) / abs(exact)

balanced = Float16(((x - 6.0) * x + 3.0) * x - 0.149)
error_bal = abs(balanced - exact) / abs(exact)

@show w;
@show error;
@show balanced;
@show error_bal;
```

```
w = Float16(-14.58)
error = 0.003987568330082385
balanced = Float16(-14.625)
error_bal = 0.0007849560096003348
```

[8]:
```
exact = -14.636489
x = Float32(4.71)
w = Float32(x^3 - 6.0*x^2 + 3.0*x - 0.149)
error = abs(w - exact) / abs(exact)

balanced = Float32(((x - 6.0) * x + 3.0) * x - 0.149)
error_bal = abs(balanced - exact) / abs(exact)

@show w;
@show error;
@show balanced;
@show error_bal;
```

```
w = -14.636493f0
error = 2.5478699246277223e-7
balanced = -14.636489f0
error_bal = 5.842265388957105e-9
```

[10]:
```
exact = -14.636489
x = Float64(4.71)
w = Float64(x^3 - 6.0*x^2 + 3.0*x - 0.149)
```

```
error = abs(w - exact) / abs(exact)

balanced = Float64(((x - 6.0) * x + 3.0) * x - 0.149)
error_bal = abs(balanced - exact) / abs(exact)

@show w;
@show error;
@show balanced;
@show error_bal;
```

```
w = -14.636489000000006
error = 4.85459822885188e-16
balanced = -14.636489
error_bal = 0.0
```