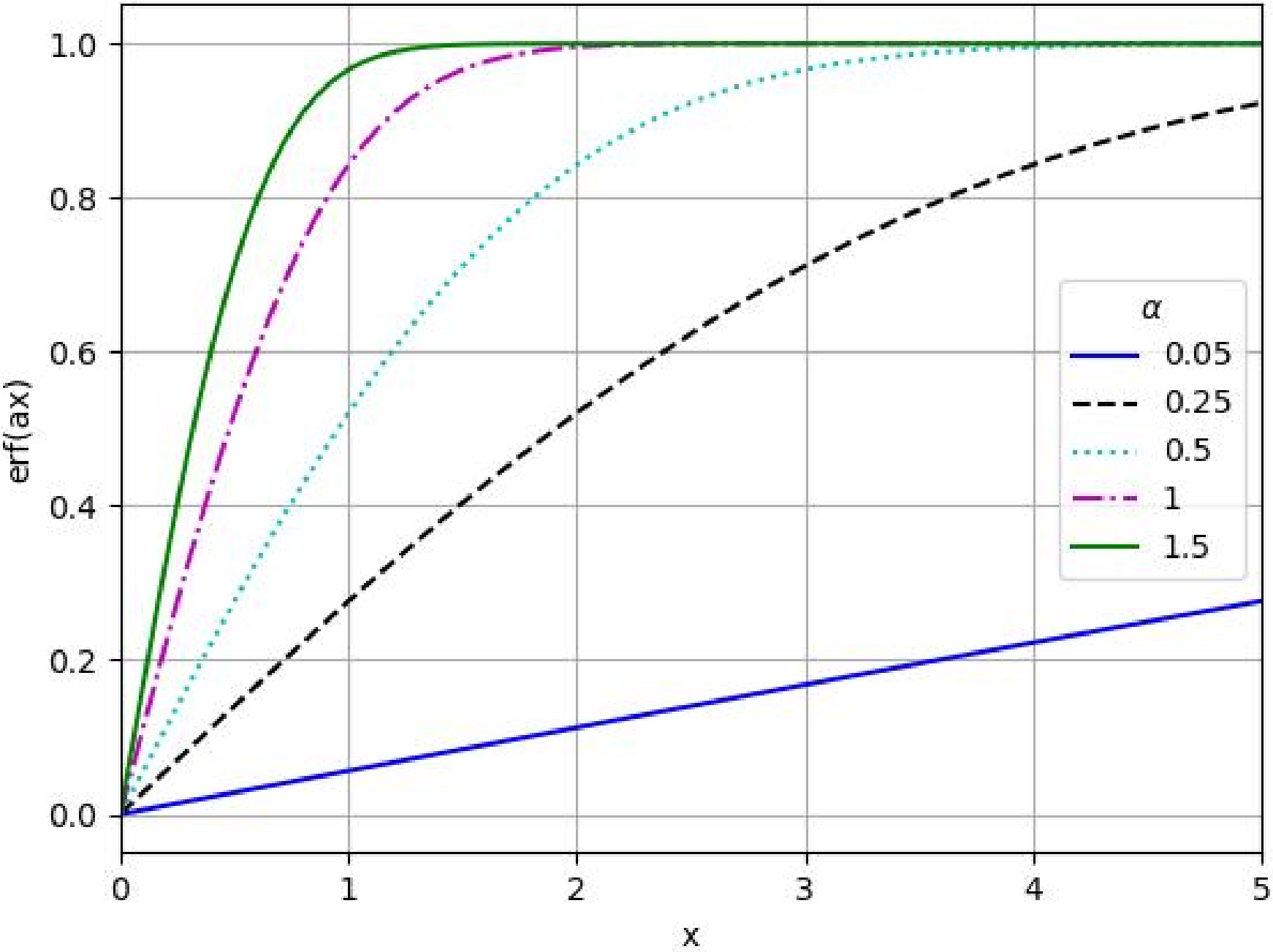

1.0
0.8
0.6
0.4
0.2
0.0
erf(ax)
0
1
2
3
4
5
x
α
0.05
0.25
0.5
1
1.5

Task 3
Exhibit 1

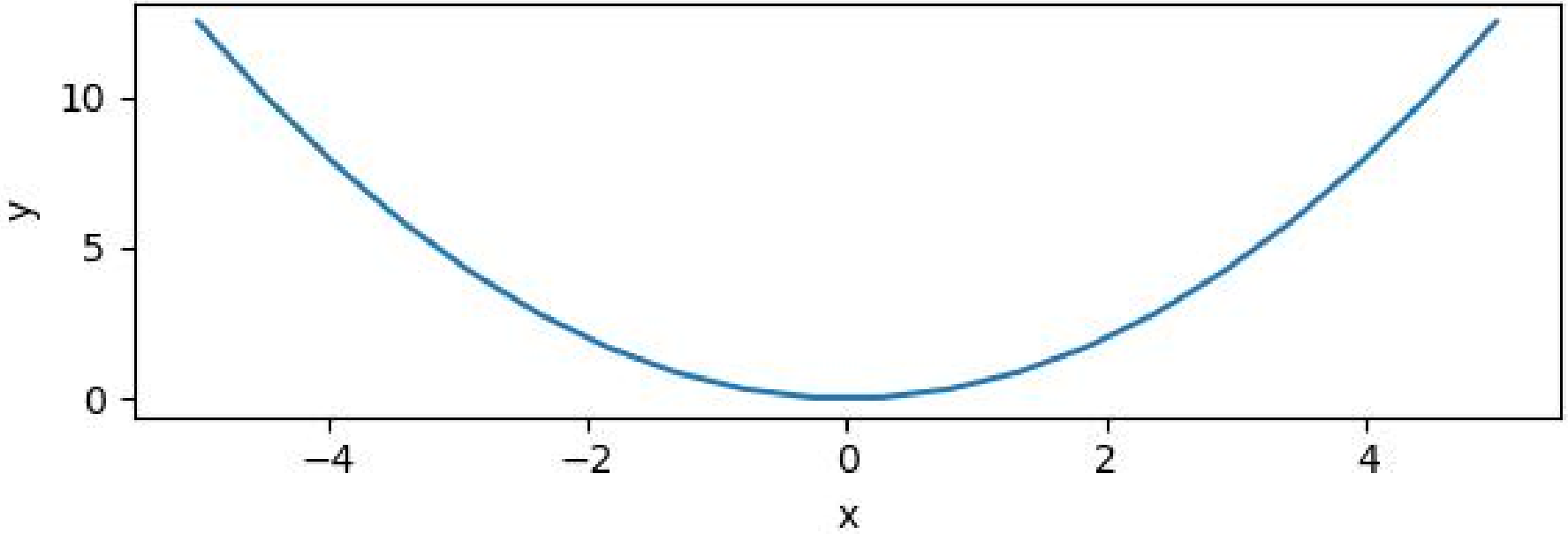
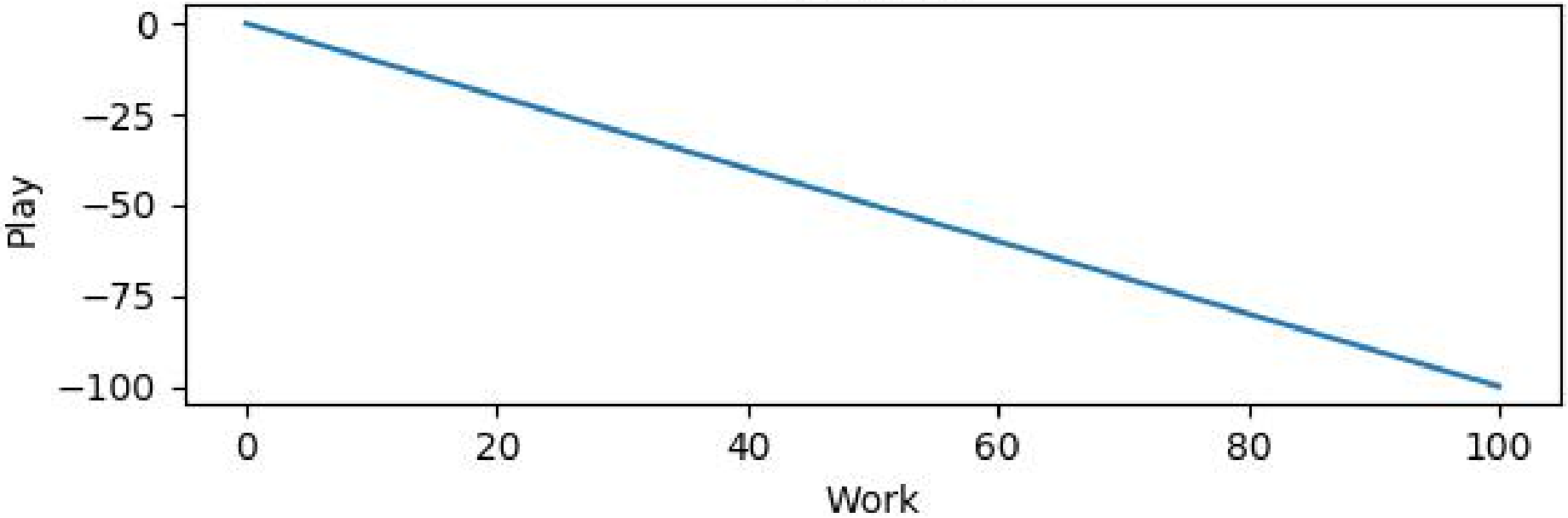
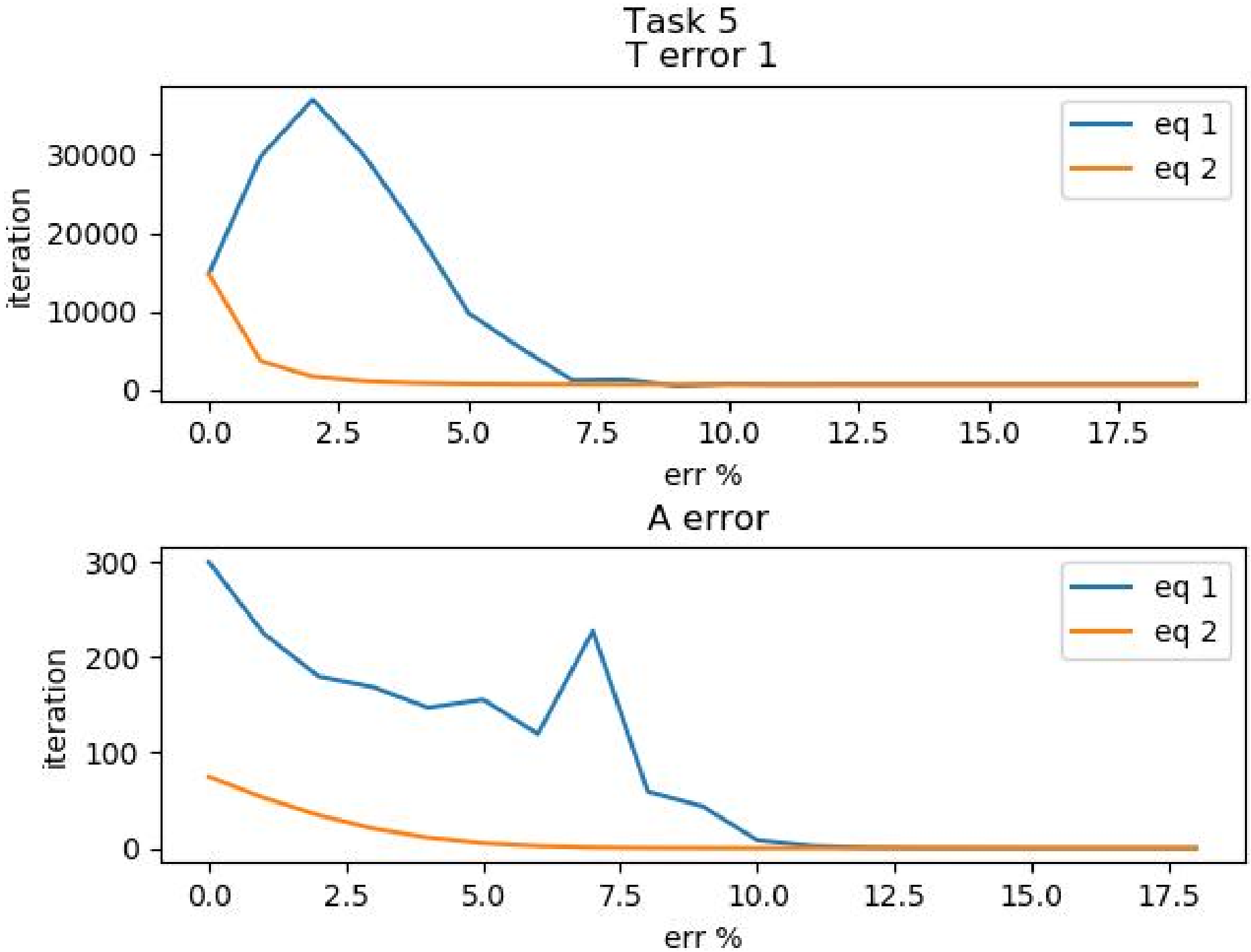


Exhibit 2




Task 5
T error 1
iteration
30000
20000
10000
0
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
err %
eq 1
eq 2
A error
iteration
300
200
100
0
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
err %
eq 1
eq 2

6)

$$f(x+\Delta x) = \sum_{k=0} \frac{f'(x)\,\Delta x^k}{k!}$$

$$f(x+\Delta x) - f(x) = \Delta x\, f'(x) + \underbrace{\quad}_{0\Delta x}$$

$$\boxed{\frac{f(x+\Delta x) - f x}{\Delta x} = f'(x)} + \underbrace{\quad}_{0\Delta x}$$

$y = 25x^3 - 6x^2 + 7x - 88$

$\frac{dy}{dx} = 75x^2 - 12x + 7$

$y(2) = 75 \cdot 4 - 24 + 7$

$y(2) = 283$

---

at $x = 2$ $h = 0.2$

Forward distace, Backward, centerd distance approx

$$\frac{df(x)}{dx} = \frac{f(x+h) - f(x)}{h} = \frac{f(x) - f(x-h)}{h} = \frac{f(x+0.5h) - f(x-0.5h)}{h}$$

$$\frac{164.56 - 102}{0.2} \qquad \frac{102 - 50.96}{0.2} \qquad \frac{131.765 - 75.115}{0.2}$$

$FW = 312.8$ $BW = 255.2$ $C = 283.25$

$FW - y(2) = 29.8$ $|BW - y(2)| = 27.8$ $\boxed{C = y_2 = 0.25}$

centerd aproximatic is most acureb b/c has Least difrance

Ros

-Program with unReal ery

meil