a) $f(x) = (x+2)^3$ Paso 0:

Paso 1: $g(x)$
a) $x = x + (x+2)^3$
b) $x = (x+2)^{1/3}$

Paso 2:
a) $g(x) = x + (x+2)^3$
$g(x)' = x^3 + 6x^2 + 13x + 8$
$g(-2)' = (-2)^3 + 6(-2)^2 + 13(-2) + 8$
$g(-2)' = -2$

$-1 \leq g(x)' \leq 1$

Paso 3:
① $g(-2) = (-2+2)^{1/3} = 0$

$$\varepsilon = \left| \frac{0-2}{0} \right| = 0\%$$

b) $f(x) = (x+2)$
Paso 0:

$$lc = \frac{1+2}{2} = 1.5$$

x	f(x)
0	0+2=2
1	1+2=3
2	2+2=4

Paso 1:
$g(x) = x + 2 = 0$

a) $x + x + 2 = x$
$2x + 2 = x$

b) $x = -2$

Paso 3:
$g(1.5) = -2$

$$\varepsilon = \left| \frac{-2-1.5}{-2} \right| = 1.75 \times 100 = 175\%$$

Paso 2:
a) $g(x) = 2x + 2$
$g(x)' = 2$

b) $g(x) = -2$
$g(x)' = 0$
$-1 \leq g(x) \leq 1$

c) $f(x) = x - 2$

x	f(x)
0	0 − 2 = −2
1	1 − 2 = −1
2	2 − 2 = 0
3	3 − 2 = 1

Paso 0:

$\frac{1+3}{2} = 2$

Paso 1: g(x)

$x + 2 = 0$

a) $x = x + x - 2 = 2x - 2$

b) $x = -2$

Paso 2:

a) $g(x) = 2x - 2$

$g(x)' = 2$

b) $g(x) = -2$

$g(x)' = 0$

Paso 3:

$g(2) = -2$

$\varepsilon = \left| \frac{-2 - 2}{-2} \right| = 2 \times 100 = 200\%$

d) $f(x) = 3x^3 - 2e^x + 9$

x	f(x)
0	$3(0)^3 - 2e^{(0)} + 9 = 7$
1	$3(1)^3 - 2e^{(1)} + 9 = 12$

Paso 0:

$I_c = \frac{0+1}{2} = 0.5$

Paso 1:

$3x^3 - 2e^x + 9 = 0$

a) $3x^3 - 2e^x + 9 + x = x$

b) $x = \left(\frac{-2e^x + 9}{3} \right)^{1/3}$

Paso 2: g(x)

a) $g(x) = 3x^3 - 2e^x + 9 + x$

$g(x)' = 9x^2 - 2e^x + 1$

$g(0.5)' = 3.24$

b) $g(x) = \left(\frac{-2e^x + 9}{3} \right)^{1/3}$

$g(x)' = \frac{2e^x}{3^3 \sqrt{3} (2e^x + 9)^{2/3}}$

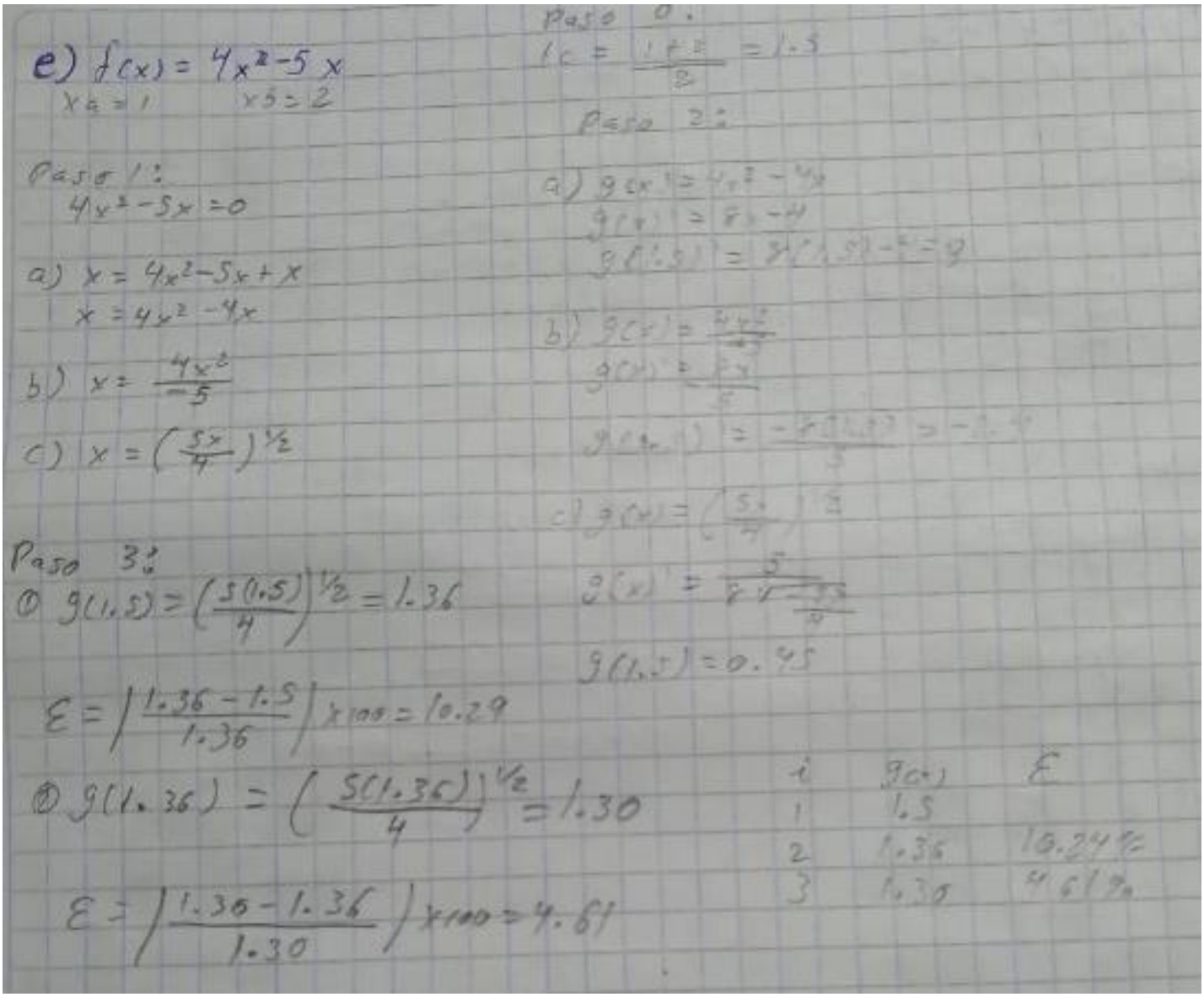
$g(0.5)' = \frac{-2e^{(0.5)}}{3^3 \sqrt{3} (-2e^{0.5} + 9)^{2/3}}$

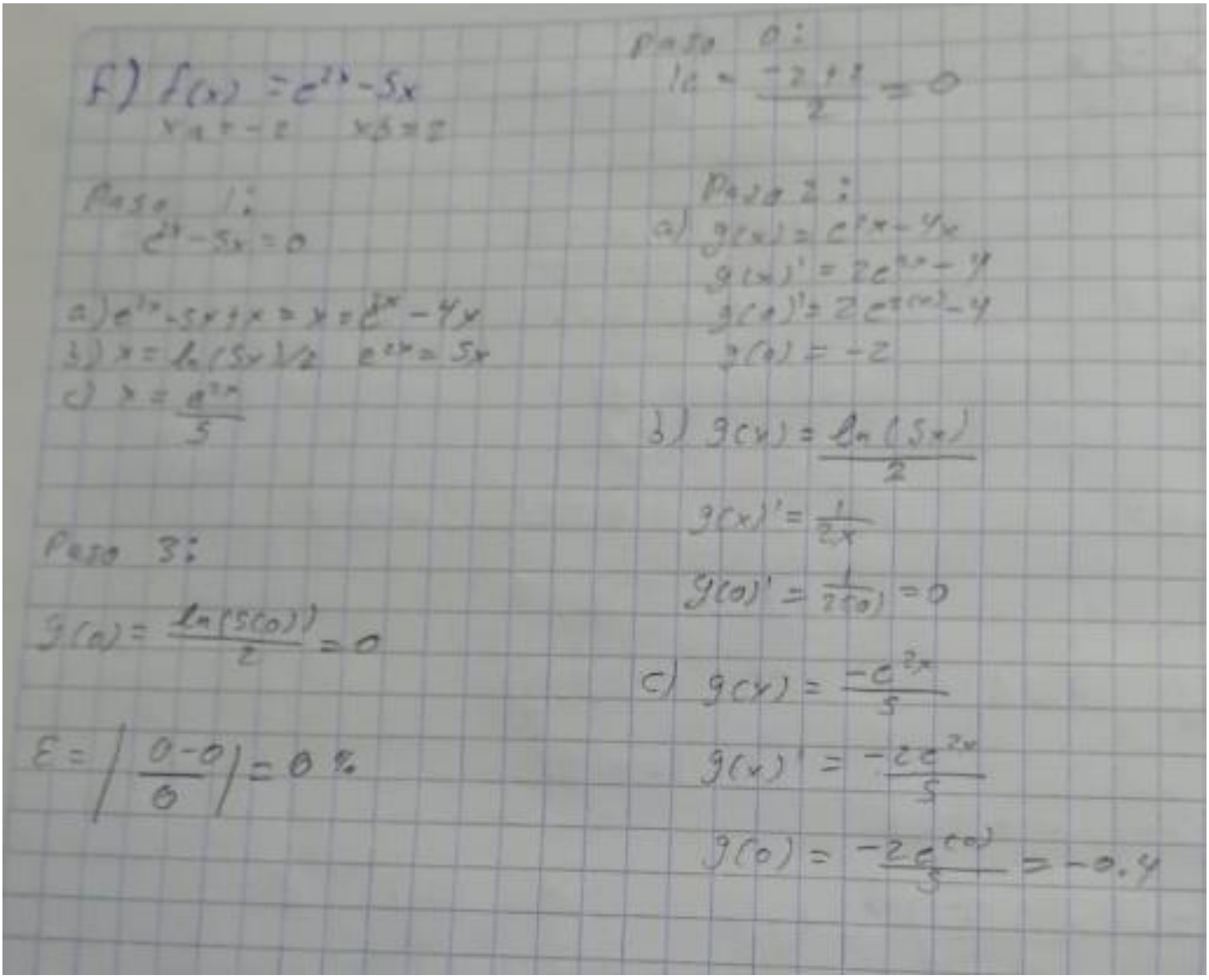
$g(0.5)' = -4.24 \times 10^{-4}$

Paso 3:

$g(0.5) = \left(\frac{-2e^{0.5} + 9}{3} \right)^{1/3} = 1.44$

$\varepsilon = \left| \frac{1.44 - 0.5}{1.44} \right| = 0.65 \times 100 = 65.27\%$


e) f(x) = 4x² - 5x
Paso 1:
4x² - 5x = 0
a) x = 4x² - 5x + x
x = 4x² - 4x
b) x = 4x²/-5
c) x = (5x/4)^1/2
Paso 3:
① g(1.5) = (5(1.5)/4)^1/2 = 1.36
E = |1.36 - 1.5 / 1.36| x100 = 10.29
② g(1.36) = (5(1.36)/4)^1/2 = 1.30
E = |1.30 - 1.36 / 1.30| x100 = 4.61
Paso 2:
a) g(x) = 4x² - 4x
b) g(x) = 4x²/-5
c) g(x) = (5x/4)^1/2
i g(x) E
1 1.5
2 1.36 10.24%
3 1.30 4.61%


F) f(x) = e^2x - 5x
Paso 1:
e^2x - 5x = 0
a) e^2x - 5x + x = x + e^x - 4x
b) x = ln(5x)/2 e^2x = 5x
c) x = e^2x / 5
Paso 3:
g(a) = ln(5(0))/2 = 0
E = |0-0/0| = 0 %
Paso 0:
1a = -2+2/2 = 0
Paso 2:
a) g(x) = e^2x - 4x
g(x)' = 2e^2x - 4
g(a)' = 2e^2(x) - 4
g(a) = -2
b) g(x) = ln(5x)/2
g(x)' = 1/2x
g(0)' = 1/2(0) = 0
c) g(x) = -e^2x/5
g(x)' = -2e^2x/5
g(0) = -2e^(0)/5 = -0.4