

**Correction**

**Exercice 1 : (10 pts)**

1°/  $Z=40$  (0.5points); la dernière ligne du tableau1 :  $2/3 \ 0 \ 1/3 \ -4/3 \ 0 \ 0$  et  $14 \ 10$  (1 point)

$Z=45$  (0.5points); le tableau2 (3 points)

le tableau3 (3 points)

$Z_{\max}=50$  (0.5points);  $x_1=10$  (0.5points);  $x_2=0$  (0.5points);  $x_3=10$  (0.5points);

**Exercice 2 : (10 pts)**

$f(-1)=-1.3679$  (0.25points);

$f(3)=-17.0855$  (0.25points);

**1 itération :**

$c=1.4721$  (0.5points);  $f'(c)=-2.8863$  (0.5points);

$b=0.5279$  (0.5points);  $f'(b)=-1.1675$  (0.5points);  $f(b)>f(c)$  (0.25points);

**2 itération :**

$\Delta 1=1.4721$  (0.25points);

$b=-0.0557$  (0.5points);  $f'(b)=-1.0015$  (0.5points);  $f(b)>f(c)$  (0.25points);

**3 itération :**

$\Delta 1=1.5729$  (0.25points);

$b=-0.39952$  (0.5points);  $f'(b)=-1.0701$  (0.5 points);  $f(b)<f(c)$  (0.25points);

**4 itération :**

$\Delta 1=0.9721$  (0.25points);

$c=-0.2016$  (0.5points);  $f'(c)=-1.0218$  (0.5 points);  $f(b)<f(c)$  (0.25points);

**5 itération :**

$\Delta 1=0.6008$  (0.25points);

$b=-0.1697$  (0.5points);  $f'(b)=-1.0135$  (0.5 points);  $f(b)>f(c)$  (0.25points);

**6 itération :**

$\Delta 1=0.6008$  (0.25 points);

$c=-0.0616$  (0.25points);  $f'(b)=-1.0019$  (0.25 points);

puisqu'on cherche 3 chiffre après la virgule dont on s'arrête et la solution est  $x=-0.055$  (0.25points)  
et  $f(x)=-1.002$ . (0.25points);