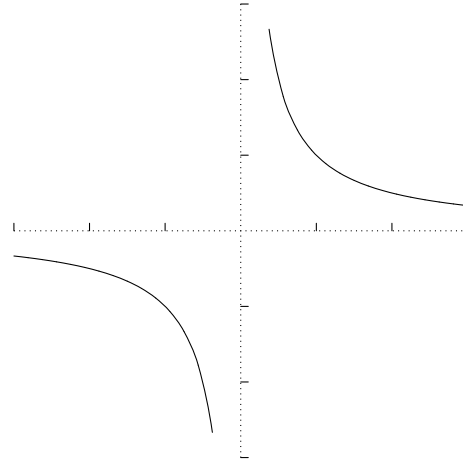
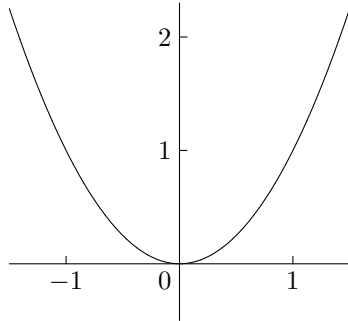
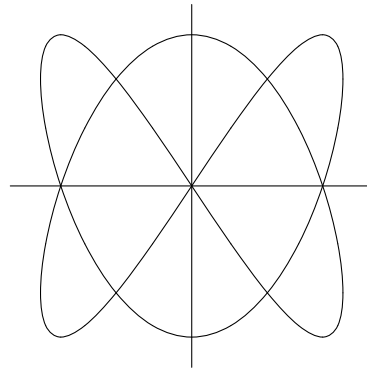
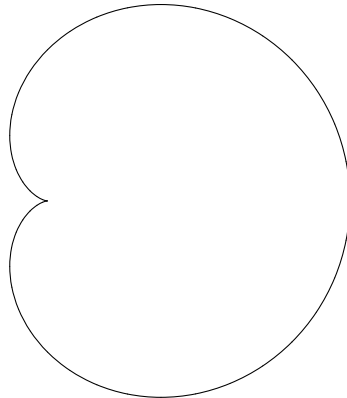


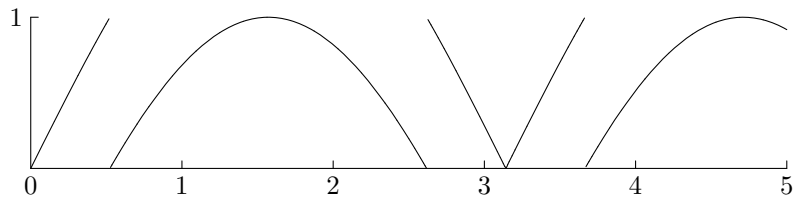
(1)



(2)

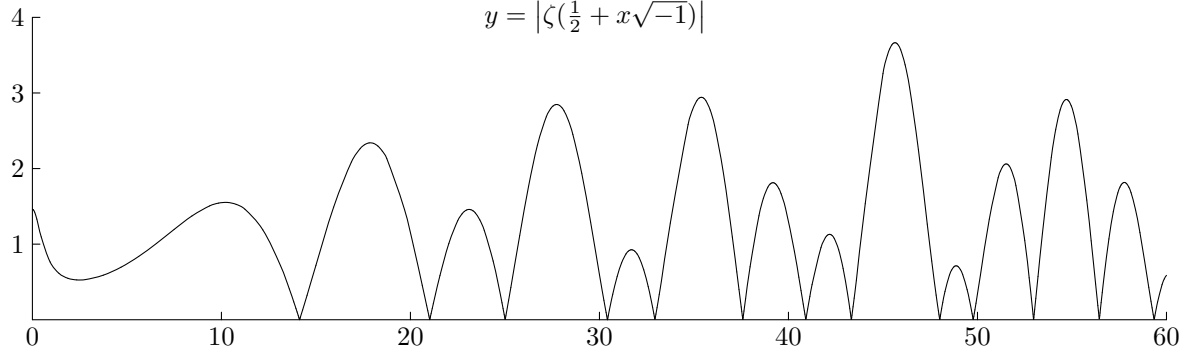


$$y = |2 \sin x| - [2 \sin x]$$



(3)

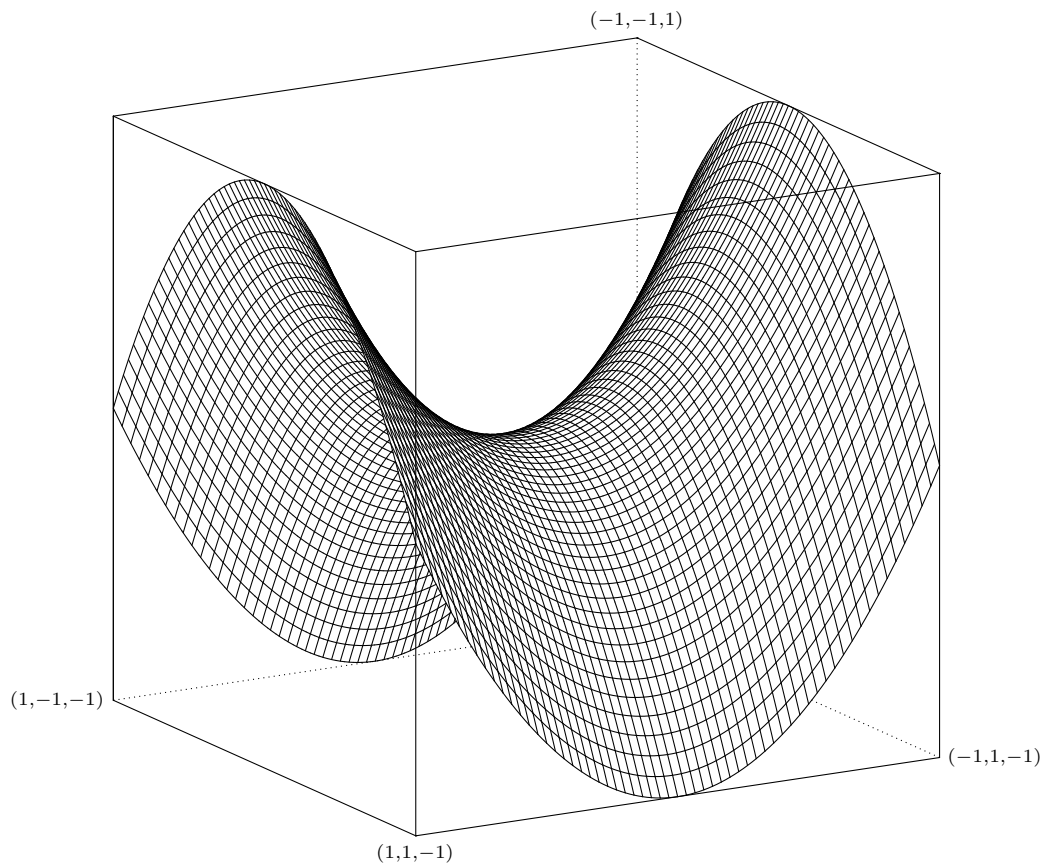
$$y = \left| \zeta\left(\frac{1}{2} + x\sqrt{-1}\right) \right|$$



(4)

$$z = x^2 - y^2 \quad (-1 \leq x \leq 1, -1 \leq y \leq 1)$$

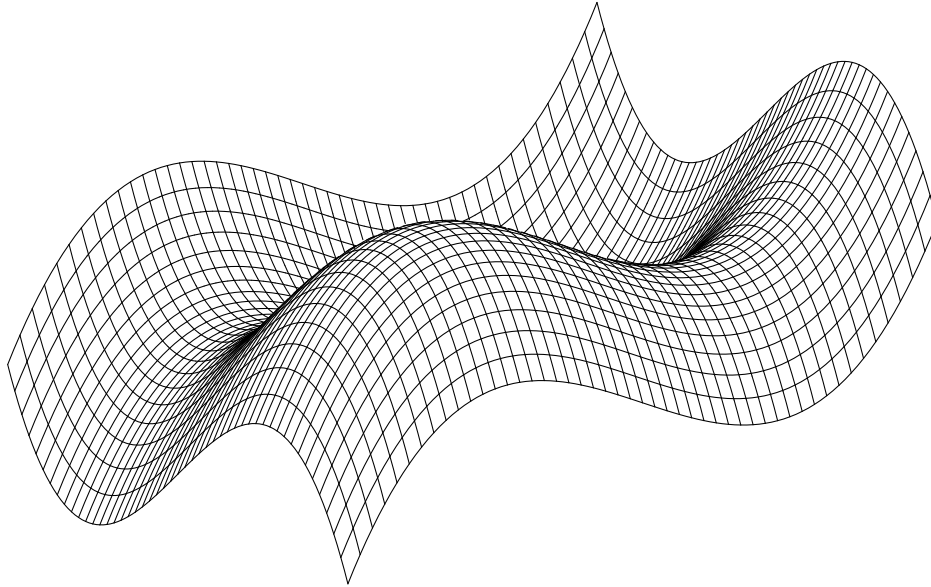
angle $(60^\circ, 15^\circ)$



(5)

$$z = -x^3 - y^3 \quad (-1 \leq x \leq 1, -1 \leq y \leq 1)$$

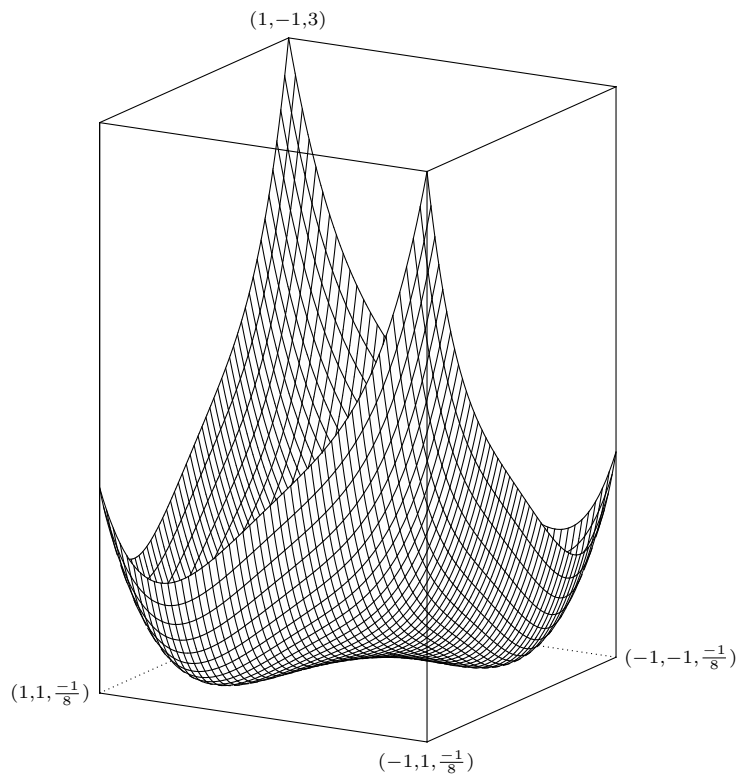
angle $(60^\circ, -35^\circ)$



(6)

$$z = x^4 - yx + y^4 \quad (-1 \leq x \leq 1, -1 \leq y \leq 1)$$

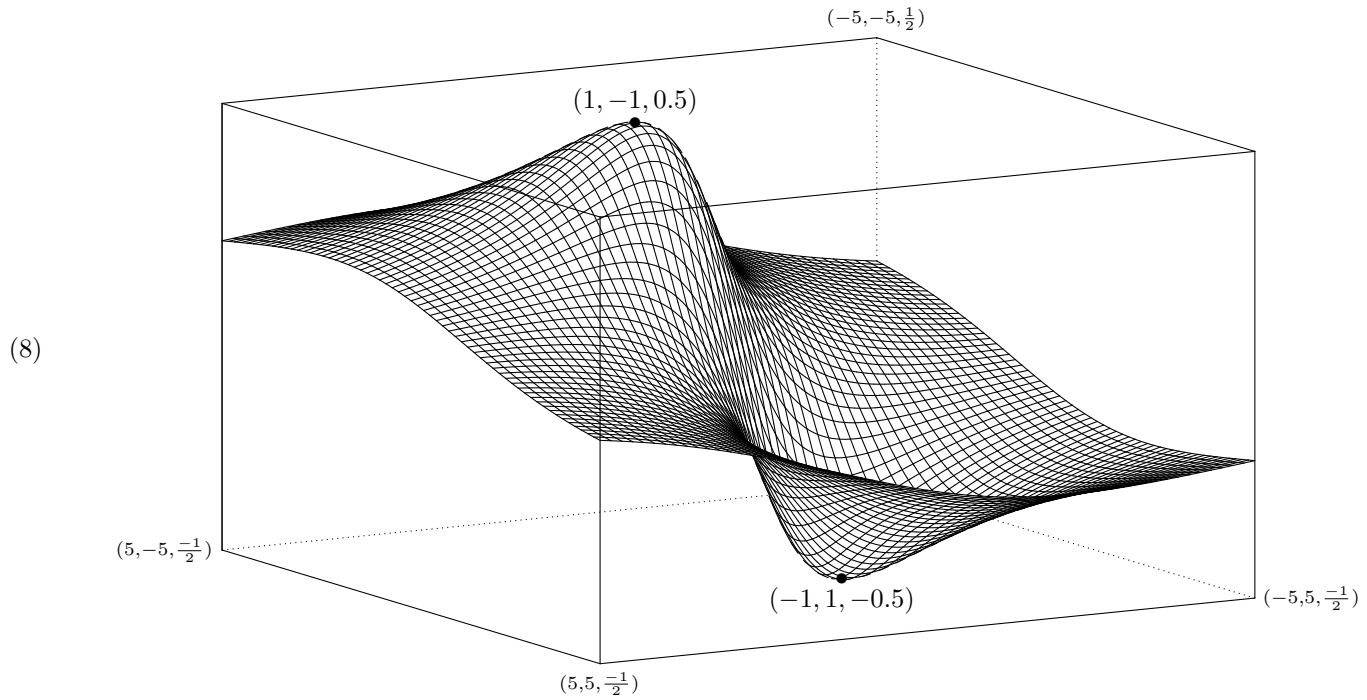
angle $(120^\circ, 15^\circ)$



(7)

$$z = \frac{x - y}{x^2 + y^2 + 2} \quad (-5 \leq x \leq 5, -5 \leq y \leq 5)$$

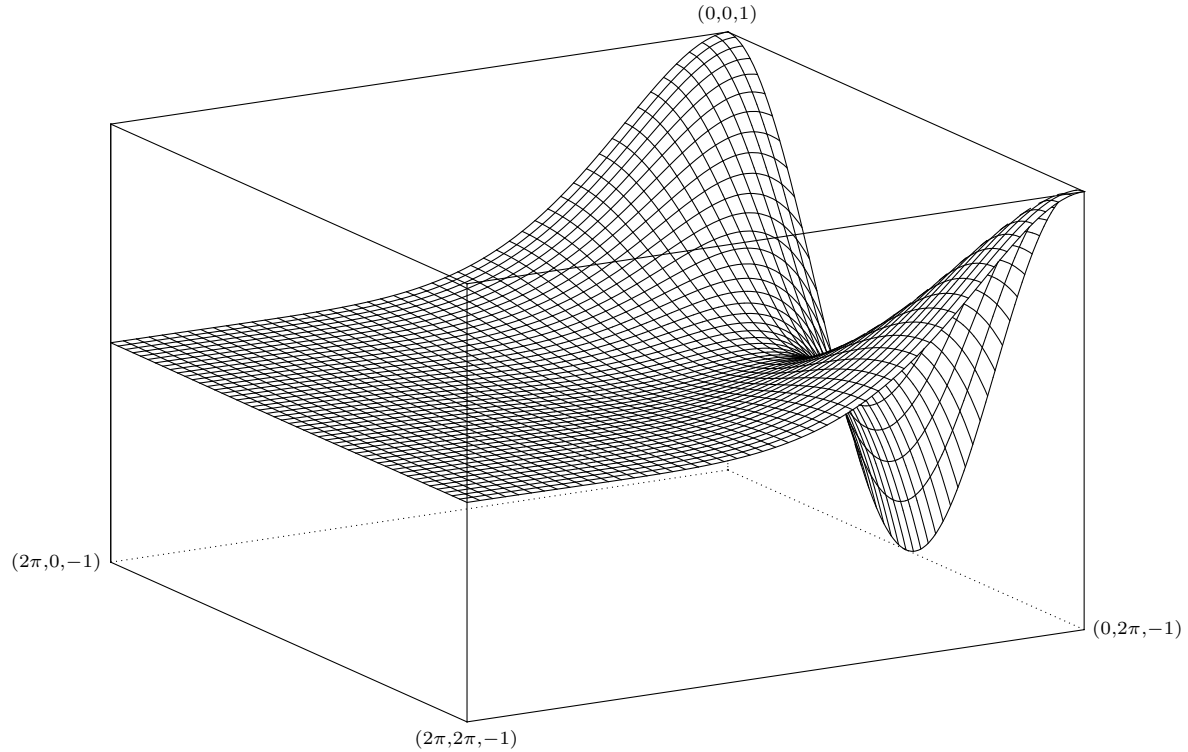
angle $(60^\circ, 10^\circ)$ ratio 1 : 1 : 6



$$z = (\sin(x) + \cos(y)) \exp(-x) \quad (0 \leq x \leq 2\pi, 0 \leq y \leq 2\pi)$$

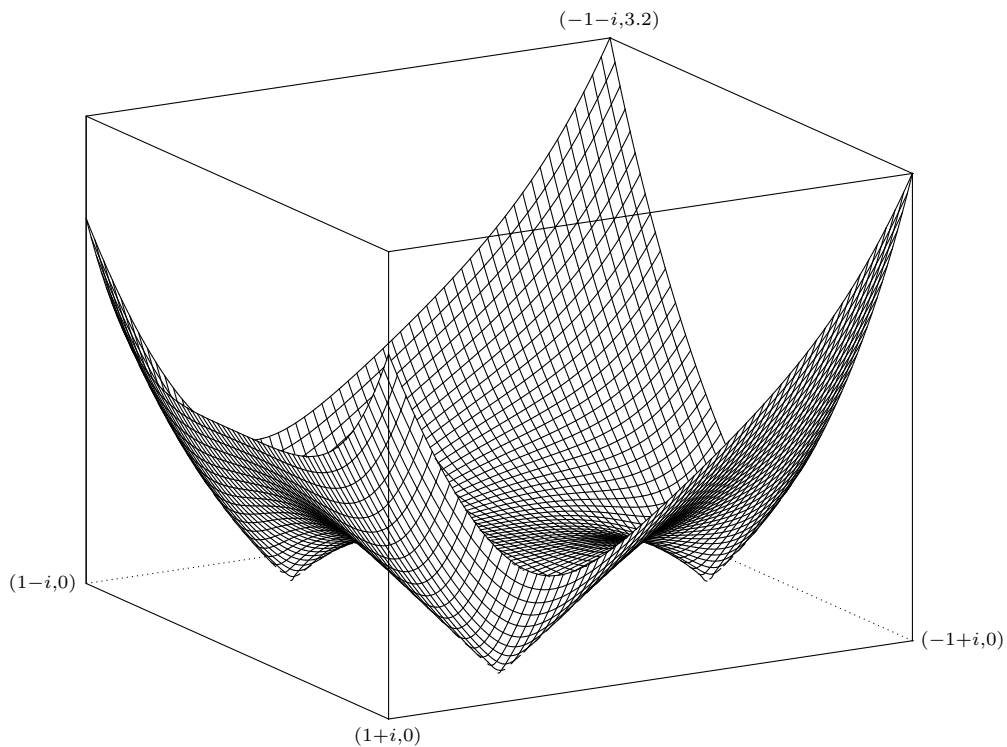
angle $(60^\circ, 15^\circ)$ ratio 1 : 1 : 2

(9)



$$|z^3 + 1/2| \quad (z = x + yi, -1 \leq x \leq 1, -1 \leq y \leq 1)$$

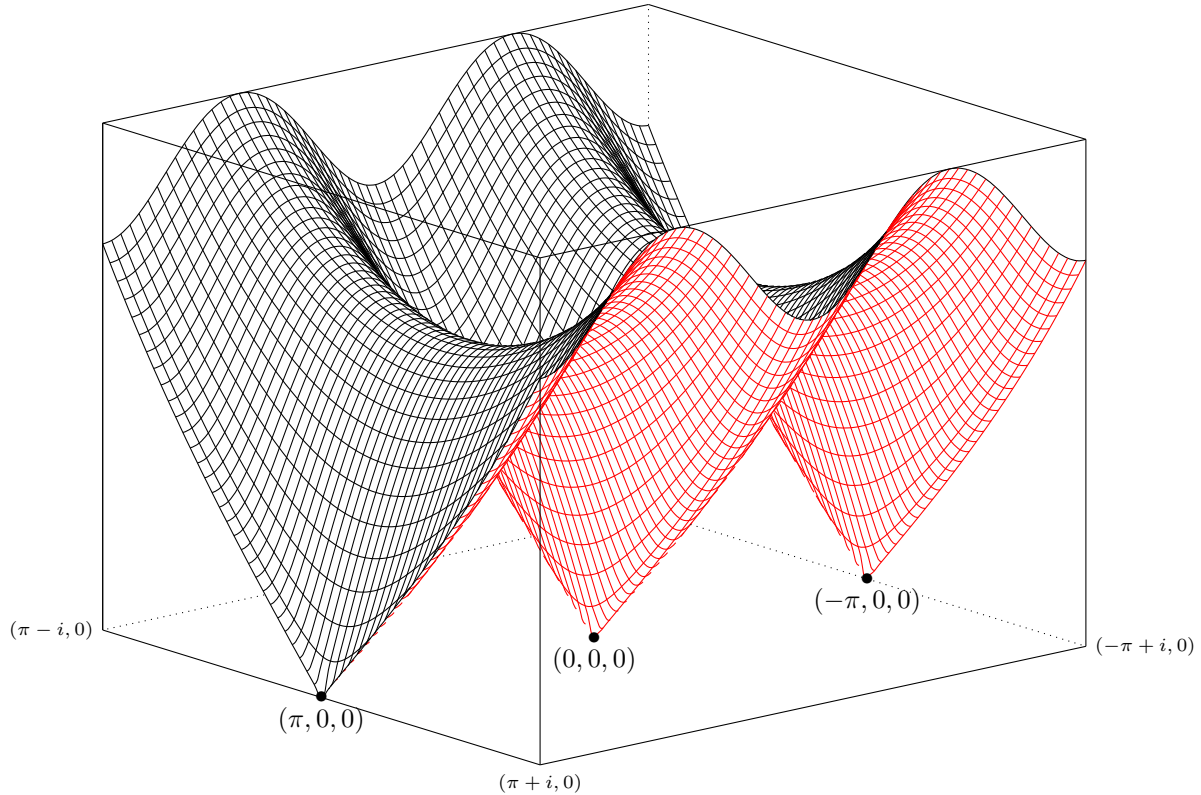
angle $(60^\circ, 15^\circ)$ ratio $1 : 1 : 0.5$



(10)

$|\sin(z)|$ ($z = x + yi$, $-\pi \leq x \leq \pi$, $-1 \leq y \leq 1$)
angle ($50^\circ, 15^\circ$) ratio 1 : 3 : 3

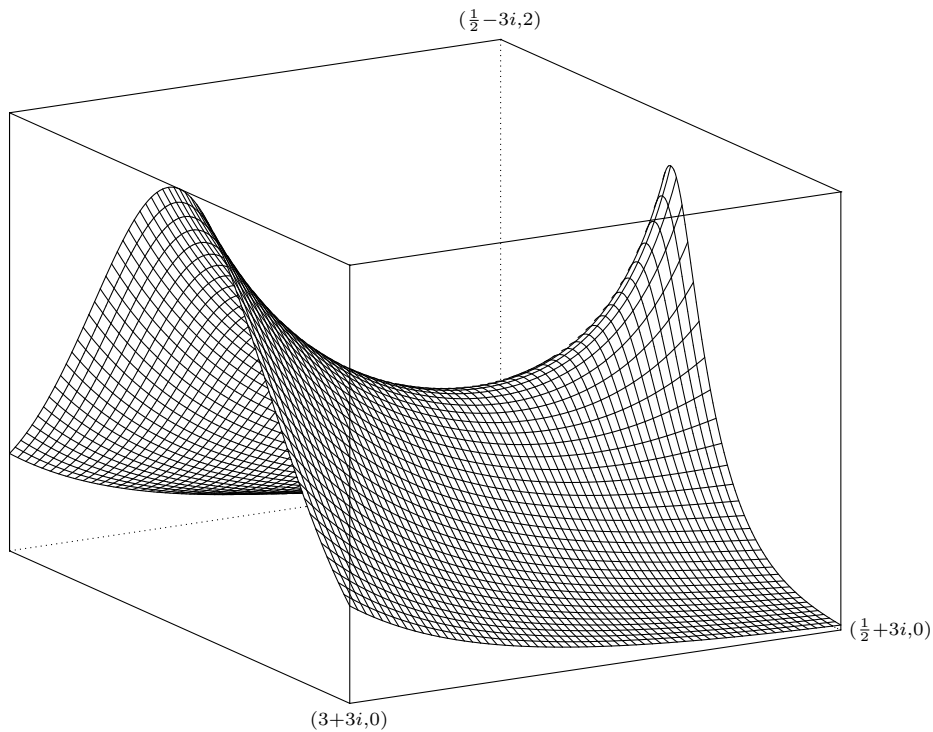
$(-\pi - i, 1.543)$



(11)

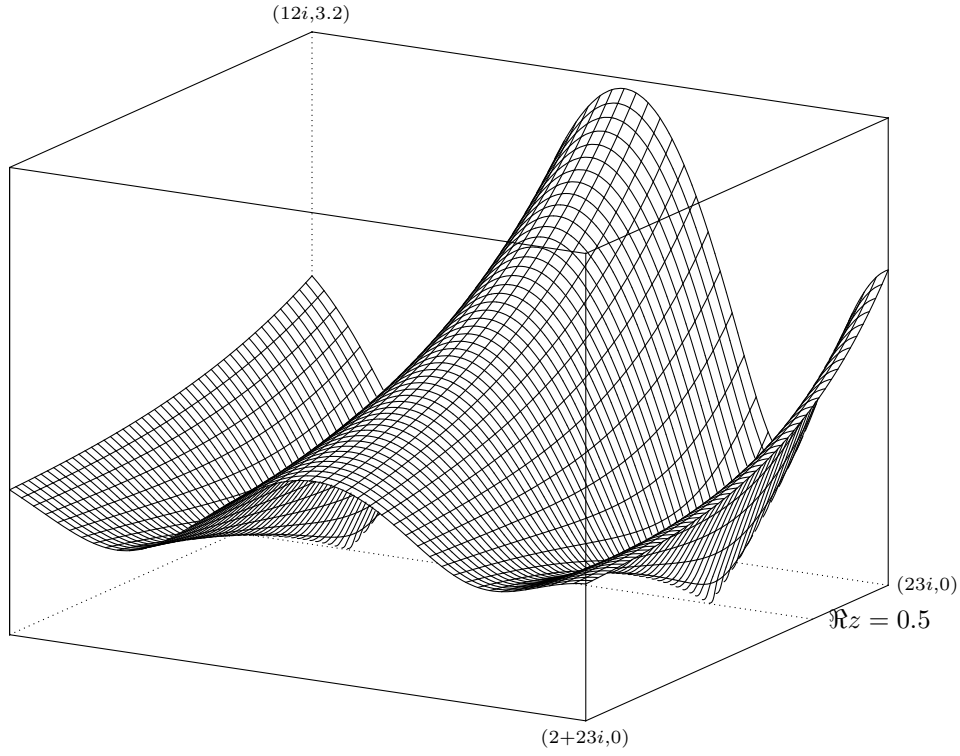
$$|\Gamma(z)| \quad (z = x + yi, \frac{1}{2} \leq x \leq 3, -3 \leq y \leq 3)$$

$$\text{angle } (60^\circ, 15^\circ) \quad \text{ratio } 1 : 0.5 : 1$$



(12)

$|\zeta(z)| \quad (z = x + yi, 0 \leq x \leq 2, 12 \leq y \leq 23)$
 angle $(30^\circ, 15^\circ)$ ratio $1 : 0.2 : 0.5$

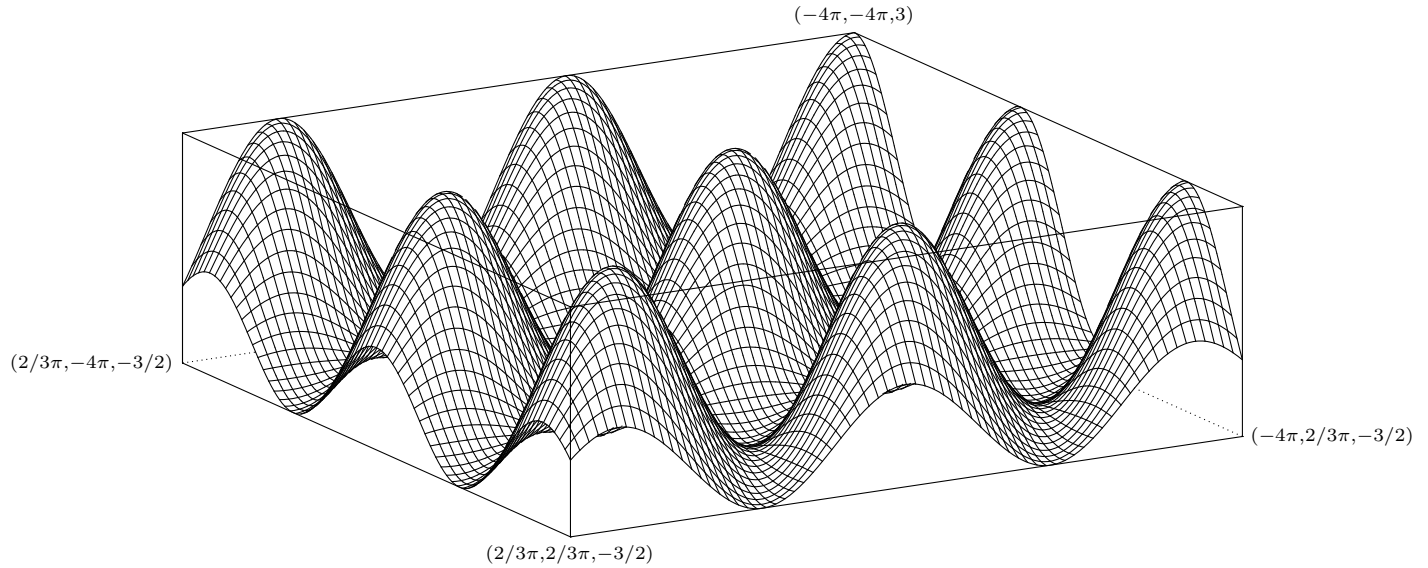


(13)

$$z = \cos(x) + \cos(y) + \cos(x - y) \quad (-4\pi \leq x \leq 2/3\pi, -4\pi \leq y \leq 2/3\pi)$$

angle $(60^\circ, 15^\circ)$

(14)



Graphs are obtained by the following commands:

Using $\text{\texttt{Xy-pic}}$ ($\text{\texttt{TikZ=0}}$)

- (1) `os_md.xygraph(x^2,0,[-1.5,1.5],[[-1.5,1.5],[[-0.5,2.3]|dviout=1,ax=[0,0,1,1,1],scale=15];`
`os_md.xygraph(1/x,0,[-3,3],[[-3,3],[[-3,3]|dviout=1,ax=[0,0,1,1],scale=10,axopt="@{.}"");`
- (2) `F=[(1+cos(x))*cos(x),(1+cos(x))*sin(x)]$`
`os_md.xygraph(F,48,[-@pi,@pi],[[-0.5,2.5],[[-1.5,1.5]|dviout=1,scale=20];`
`G=[sin(2*x),sin(3*x)]$`
`os_md.xygraph(G,-48,[-@pi,@pi],[[-1.2,1.2],[[-1.2,1.2]|dviout=1,scale=20,ax=[0,0]);`
- (3) `F3=[u,[v,dsin,x],[w,os_md.abs,2*v],[z,dfloor,w],[u,0,-z+w]];`
`os_md.xygraph(F3,0,[0,5],[0,5],[0,1]|dviout=1,scale=20,prec=[4,0,1],ax=[0,0,1,1,0]);`
- (4) `F4=[w,[z,os_md.zeta,1/2+@i*x],[w,os_md.abs,z]];`
`os_md.xygraph(F4,-64,[0,60],[0,60],[0,4]|dviout=1,scale=[2.5,10],prec=6,ax=[0,0,10,1,1]);`
- (5) `os_md.xy2graph(x^2-y^2,-60,[-1,1],[[-1,1],[[-5,5],0,0|scale=40,dviout=3,ax=[-1,1,-6],dev=32);`
- (6) `os_md.xy2graph(-x^3-y^3,-48,[-1,1],[[-1,1],[[-10,10],0,-35|scale=45,dviout=3);`
- (7) `os_md.xy2graph(x^4+y^4-x*y,-48,[-1,1],[[-1,1],[[-10,10],120,0|dviout=3,ax=[-1/8,3,-6],dev=64,scale=25);`
- (8) `os_md.xy2graph((x-y)/(x^2+y^2+2),-60,[-5,5],[[-5,5],[[-5,5],60,10|scale=[10,60],dviout=3,ax=[-1/2,1/2,-6],`
`pt=[[1,-1,0.5],0,"*!D{(1,-1,0.5)}"],[[[-1,1,-0.5],0,"*!U{(-1,1,-0.5)}"]]);`
- (9) `F9=exp(-x)*(sin(x)+cos(y));`
`os_md.xy2graph(F9,-48,[0,2*@pi],[0,2*@pi],[[-5,5],0,0|scale=[15,30],dviout=3,ax=[-1,1,-6],dev=32);`
- (10) `os_md.xy2graph(z^3+1/2,-60,[-1,1],[[-1,1],[[-5,8],0,0|scale=[40,20,40],ax=[0,3.2,-6],dviout=3);`
- (11) `os_md.xy2graph(sin(z),-60,[-@pi,@pi],[[-1,1],[[-5,8],50,0|scale=[15,45,45],ax=[0,1.543,-6],dviout=3,`
`pt=[[[@pi,0,0],0,"*!U{(\pi,0,0)}"],[[0,0,0],0,"*!U{(0,0,0)}"],[[[-@pi,0,0],0,"*!U{(-\pi,0,0)}"],`
`[[@pi,0,0],[[-@pi,0,0],2]]];`
- (12) `FC=[w,[u,os_md.gamma,x+y*@i],[w,os_md.abs,u]];`
`os_md.xy2graph(FC,-60,[1/2,3],[[-3,3],[[-10,10],0,0|dviout=3,ax=[0,2,-6],scale=[30,30,15],title="\Gamma(z)");`
- (13) `FD=[w,[v,os_md.zeta,x+y*@i],[w,os_md.abs,v]];`
`os_md.xy2graph(FD,-48,[0,2],[12,23],[[-10,20],30,0|scale=[40,20,8],dviout=3,ax=[0,3.2,-6],org=[0,17,0],`
`pt=[[1/2,12,0],[1/2,23,0],-2],[[1/2,23,0],"","*!L{\Re z=0.5}"],title="\zeta(z)");`
- (14) `os_md.xy2graph(cos(x)+cos(y)+cos(x-y),-72,[-4*@pi,2/3*@pi],[[-4*@pi,2/3*@pi],[[-10,10],0,0|dviout=3,scale=7,`
`ax=[-3/2,3,-6]);`

Using TikZ (TikZ=1)

```
(1) os_md.xygraph(x^2,0,[-1.5,1.5],[[-1.5,1.5],[[-0.5,2.3]|dviout=1,ax=[0,0,1,1,1],scale=1.5);
os_md.xygraph(1/x,0,[-3,3],[[-3,3],[[-3,3]|dviout=1,ax=[0,0,1,1],axopt="dotted");
(2) F=[(1+cos(x))*cos(x),(1+cos(x))*sin(x)]$
os_md.xygraph(F,48,[-@pi,@pi],[-0.5,2.5],[[-1.5,1.5]|dviout=1,scale=2);
G=[sin(2*x),sin(3*x)]$
os_md.xygraph(G,-48,[-@pi,@pi],[-1.2,1.2],[[-1.2,1.2]|dviout=1,scale=2,ax=[0,0]);
(3) F3=[u,[v,dsin,x],[w,os_md.abs,2*v],[z,dfloor,w],[u,0,-z+w]];
os_md.xygraph(F3,0,[0,5],[0,5],[0,1]|dviout=1,scale=2,prec=[4,0,1],ax=[0,0,1,1,0]);
(4) F4=[w,[z,os_md.zeta,1/2+@i*x],[w,os_md.abs,z]];
os_md.xygraph(F4,-64,[0,60],[0,60],[0,4]|dviout=1,scale=[0.25,1],prec=6,ax=[0,0,10,1,1]);
(5) os_md.xy2graph(x^2-y^2,-60,[-1,1],[[-1,1],[[-5,5],0,0|scale=4,dviout=3,ax=[-1,1,-6],dev=32);
(6) os_md.xy2graph(-x^3-y^3,-48,[-1,1],[[-1,1],[[-10,10],0,-35|scale=4.5,dviout=3);
(7) os_md.xy2graph(x^4+y^4-x*y,-48,[-1,1],[[-1,1],[[-10,10],120,0|dviout=3,ax=[-1/8,3,-6],dev=64,scale=2.5);
(8) os_md.xy2graph((x-y)/(x^2+y^2+2),-60,[-5,5],[[-5,5],[[-5,5],60,10|scale=[1,6],dviout=3,ax=[-1/2,1/2,-6],
pt=[[1,-1,0.5],0,1],[1,["above","$(1,-1,0.5)$"]],[[-1,1,-0.5],0,1],[1,["below","$(-1,1,-0.5)$"]]]);
(9) F9=exp(-x)*(sin(x)+cos(y));
os_md.xy2graph(F9,-48,[0,2*@pi],[0,2*@pi],[[-5,5],0,0|scale=[1.5,3],dviout=3,ax=[-1,1,-6],dev=32);
(10) os_md.xy2graph(z^3+1/2,-60,[-1,1],[[-1,1],[[-5,8],0,0|scale=[4,2,4],ax=[0,3.2,-6],dviout=3);
(11) os_md.xy2graph(sin(z),-60,[-@pi,@pi],[[-1,1],[[-5,8],50,0|scale=[1.5,4.5,4.5],ax=[0,1.543,-6],dviout=3,
pt=[[[@pi,0,0],0,1],[1,["below","$(\pi,0,0)$"]],[[0,0,0],0,1],[1,["below","$(0,0,0)$"]],
[[-@pi,0,0],0,1],[1,["below","$(-\pi,0,0)$"]],[[@pi,0,0],[[-@pi,0,0],2]],opt=["black","red"]);
(12) FC=[w,[u,os_md.gamma,x+y*@i],[w,os_md.abs,u]];
os_md.xy2graph(FC,-60,[1/2,3],[[-3,3],[[-10,10],0,0|dviout=3,ax=[0,2,-6],scale=[3,3,1.5],title="\Gamma(z)");
(13) FD=[w,[v,os_md.zeta,x+y*@i],[w,os_md.abs,v]];
os_md.xy2graph(FD,-48,[0,2],[12,23],[[-10,20],30,0|scale=[40,20,8],dviout=3,ax=[0,3.2,-6],org=[0,17,0],
pt=[[1/2,12,0],[1/2,23,0],-2],[[1/2,23,0],[["below","$\Re z=0.5$"]]]],title="\zeta(z)");
(14) os_md.xy2graph(cos(x)+cos(y)+cos(x-y),-72,[-4*@pi,2/3*@pi],[-4*@pi,2/3*@pi],[[-10,10],0,0|dviout=3,scale=0.7,
ax=[-3/2,3,-6]);
```