Entered	Answer Preview	Result
1.18394-0.430918i, -0.218783+1.24078i, -0.965156-0.809862i	$2^{\frac{1}{3}}e^{\frac{-\pi i}{9}}, 2^{\frac{1}{3}}e^{\frac{5\pi i}{9}}, 2^{\frac{1}{3}}e^{\frac{11\pi i}{9}}$	correct
-0.45509-1.09868i, 0.45509+1.09868i	$2^{\frac{1}{4}}e^{\frac{-5\pi i}{8}}, 2^{\frac{1}{4}}e^{\frac{3\pi i}{8}}$	correct
1.22371+0.161104i, 0.472334+1.14031i, -0.751374+0.97921i, -1.22371-0.161104i, -0.472334-1.14031i, 0.751374-0.97921i	$\left(\frac{5}{2}\right)^{\frac{1}{6}}\cdot 2^{\frac{1}{12}}e^{\frac{\pi i}{24}}, \left(\frac{5}{2}\right)^{\frac{1}{6}}\cdot 2^{\frac{1}{12}}e^{\frac{9\pi i}{24}}, \left(\frac{5}{2}\right)^{\frac{1}{6}}\cdot 2^{\frac{1}{12}}e^{\frac{17\pi i}{24}}, \left(\frac{5}{2}\right)^{\frac{1}{6}}\cdot 2^{\frac{1}{12}}e^{\frac{25\pi i}{24}}, \left(\frac{5}{2}\right)^{\frac{1}{6}}\cdot 2^{\frac{1}{12}}e^{\frac{33\pi i}{24}}, \left(\frac{5}{2}\right)^{\frac{1}{6}}\cdot 2^{\frac{1}{12}}e^{\frac{41\pi i}{24}}$	correct

All of the answers above are correct.

(1 point) Find all the values of the following :

(1) $(1-\sqrt{3}i)^{\frac{1}{3}}$

Place all answers in the following blank, separated by commas:

2^(1/3)*e^(-pi*i/9),2^(1/3)*e^(5pi*i/9),2^(1/3)*e^(11pi*i/9)

(2) $(i-1)^{\frac{1}{2}}$

Place all answers in the following blank, separated by commas:

2^(1/4)*e^(-5pi*i/8),2^(1/4)*e^(3pi*i/8)

(3) $\left(\frac{5i}{1+i}\right)^{\frac{1}{6}}$

Place all answers in the following blank, separated by commas:

(5/2)^(1/6)*2^(1/12)*e^(pi*i/24),(5/2)^(1/6)*2^(1/12)*e^(9pi*i/24),(5/2)^(1/6)*2^(1/12)*

Entered	Answer Preview	Result
3.06992327280309+0.651482080258584i	$\frac{2*\sqrt{2}}{(-9+\sqrt{97})^{\frac{1}{2}}}+\left(\frac{-9+\sqrt{97}}{2}\right)^{\frac{1}{2}}i$	correct

The answer above is correct.

(1 point) Find the square root of 9+4i so that the real part of your answer is positive.

The square root is (2*sqrt(2)/(-9+s .

Entered	Answer Preview	Result
2.82843+2.82843i, -2.82843+2.82843i, -2.82843-2.82843i, 2.82843-2.82843i	$4\cdot(-1)^{\frac{1}{4}}, 4\cdot(-1)^{\frac{1}{4}}e^{\frac{\pi i}{2}}, 4\cdot(-1)^{\frac{1}{4}}e^{\pi i}, 4\cdot(-1)^{\frac{1}{4}}e^{\frac{3\pi i}{2}}$	correct
1, 0.309017+0.951057i, -0.809017+0.587785i, -0.809017-0.587785i, 0.309017-0.951057i	$1, e^{\frac{2\pi i}{5}}, e^{\frac{4\pi i}{5}}, e^{\frac{6\pi i}{5}}, e^{\frac{8\pi i}{5}}$	correct
0.92388+0.382683i, -0.382683+0.92388i, -0.92388-0.382683i, 0.382683-0.92388i	$i^{\frac{1}{4}}, i^{\frac{1}{4}}e^{\frac{\pi i}{2}}, i^{\frac{1}{4}}e^{\pi i}, i^{\frac{1}{4}}e^{\frac{3\pi i}{2}}$	correct

All of the answers above are correct.

(1 point) Find all the values of the following.

(1) $(-256)^{\frac{1}{4}}$

Place all answers in the following blank, separated by commas:

4*(-1)^(1/4),4*(-1)^(1/4)*e^(pi*i/2),4*(-1)^(1/4)*e^(pi*i),4*(-1)^(1/4)*e^(3pi*i/2)

(2) $1^{\frac{1}{3}}$

Place all answers in the following blank, separated by commas:

1,e^(2pi*i/5),e^(4pi*i/5),e^(6pi*i/5),e^(8pi*i/5)

(3) $i^{\frac{1}{4}}$

Place all answers in the following blank, separated by commas:

i^(1/4),i^(1/4)*e^(pi*i/2),i^(1/4)*e^(pi*i),i^(1/4)*e^(3pi*i/2)

(1 point)

Consider the equation $z^{19}=(1+\sqrt{3}\,i)$. Find the value of z which satisfies this equation and which has the **second** smallest positive argument $\theta, 0<\theta<2\pi$. Express your answer as $z=re^{i\theta}$ where

r = 2^(1/19) and θ = 7*pi/57

(1 point)

Consider the equation $z^{12}=(1+i)$. Find the value of z which satisfies this equation and which has the **second** smallest positive argument $\theta, 0<\theta<2\pi$. Express your answer as $z=re^{i\theta}$ where

r = 2^(1/24) and θ = 3pi/16