Sum of complex numbers =

1- $(3+5i)+(4-2i)=$

2- $(5-3i)+(-4-7i)=$

3- $(-6+6i)+(9-i)=$

4- $(3-2i)+\left(-5-\frac{1}{3}i\right)=$

Differences of complex numbers =

1- $(7-\frac{1}{2}i)-\left(5+\frac{3}{2}i\right)=$

2- $(-12+8i)-(7+4i)=$

3- $(3+5i)-(4-2i)=$

4- $(-3+4i)-(2-5i)=$

5- $(-4+i)-(2-5i)=$

Multiplying complex numbers =

1- $(3+5i)(4-2i)=$

2- $i^{23}=$

3- $4(-1+2i)=$

4- $(7-i)(4+2i)=$

5- $(6+5i)(2-3i)=$

6- $(2+5i)(2-5i) =$

7- $(3-7i)^2 =$

8- $(2+5i)^2 =$

Dividing complex numbers=

$$\frac{a+bi}{c+di} = \frac{a+bi}{c+di} \cdot \frac{c-di}{c-di} = \frac{ac+bi.c-di.a+bd}{c^2+c.di-c.di+d^2} = \frac{ac+bd+(bc-da)i}{c^2+d^2}$$

1- $\frac{3+5i}{1-2i} =$

2- $\frac{7+3i}{4i} =$

3- $\frac{1}{i} =$

4- $\frac{2-3i}{1-2i} =$

5- $\frac{10i}{1-2i} =$

6- $\frac{4+6i}{3i} =$

7- $\frac{1}{1+i} - \frac{1}{1-i} =$

8- $\frac{(1+2i)(3-i)}{2+i} =$

9-$(2-3i)^{-1}=$

10 - $\frac{1}{1+i}=$

Quadratic equations with complex solutions=

تجزیه:

1- $x^2+49=0$

2- $x^2-x+2=0$

3- $x^2+3x+7=0$

4- $6x^2+12x+7=0$

5- $2x^2-2x+1=0$

روش هندسی:

1- $z^2=4\sqrt{3}+4i$

2-$z^4=-81\,i$

3- $z^8=1$

4- $z^3=i$

5- $z^4=-1$

6- $z^3=2+2i$