Consider two complex numbers $z_1 = 5 + j2$ and $z_2 = -2 + j$.

6.1 QUIZ QUESTION 1 (1/1 point)

What is the real part of the sum of $z_1 + z_2$?

3 ✔ **Answer:** 3

3

What is the imaginary part of the sum of $z_1 + z_2$?

3 ✔ **Answer:** 3

3

EXPLANATION

The real part of the sum is the sum of the real parts of z_1 and z_2. Thus, the real part is 5-2 = 3.

The imaginary part of the sum is the sum of the imaginary parts of z_1 and z_2. Thus, the imaginary part is 2+1 = 3.

You have used 1 of 3 submissions

6.1 QUIZ QUESTION 2 (1/1 point)

What is the magnitude of z_1 to two decimal place (e.g. 3.14)?

5.39 ✔ **Answer:** 5.3852

5.39

Week 3 Quiz due Nov 16, 2015 at 15:30 UT

6.4 Discrete Fourier Transform
Week 3 Quiz due Nov 16, 2015 at 15:30 UT

- MATLAB download and tutorials
- MATLAB Sandbox

EXPLANATION

The magnitude is the square root of the sum of the squares of the real and imaginary parts. Thus,

$$\text{magnitude} = \sqrt{5^2 + 2^2} = \sqrt{29} \approx 5.3852$$

You have used 1 of 3 submissions

6.1 QUIZ QUESTION 3 (1/1 point)

What is the real part of the product of $z_1 \times z_2$?

-12 ✔ **Answer:** -12

-12

What is the imaginary part of the product of $z_1 \times z_2$?

1 ✔ **Answer:** 1

1

EXPLANATION

The real part of the product is (5)(-2) - (2)(1) = -12.

The imaginary part of the product is (5)(1) + (2)(-2) = 1.

You have used 1 of 3 submissions