



# Simple Operations with Complex Numbers

## Worksheet 1

Answer each of the following without a calculator, using the boxes provided for your answers.

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### Question 1

Find  $z_1 + z_2$ , where  $z_1 = 4 + i$  and  $z_2 = -2 + 3i$ .

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### Question 2

Find  $z_1 - z_2$ , where  $z_1 = 6 + 3i$  and  $z_2 = 4 + i$ .

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### Question 3

Find  $5z$ , where  $z = -3 + 5i$ .



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**Question 4**

Find  $4z_1 + 2z_2$ , where  $z_1 = 1 + 4i$  and  $z_2 = 3 - i$ .

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**Question 5**

Find  $z_1 + z_1^* - z_2$  where  $z_1 = -4 + 2i$  and  $z_2 = -6i$ .

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**Question 6**

Find  $z_1 - 3z_2$  where  $z_1 = 3 - 2i$  and  $z_2 = 1 + 5i$



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Question 7

Find  $z_2 + (z_1 - z_1^*)$ , where  $z_1 = 3 + 2i$  and  $z_2 = 4 + 5i$ .

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Question 8

Find  $4z_1 + 3z_2 - 2z_3$  where  $z_1 = -2 + i$ ,  $z_2 = 3 + 4i$  and  $z_3 = 4$ .



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Question 9

Find  $z_1 + z_2 + z_1^* - z_2^*$  where  $z_1 = 1 - 3i$  and  $z_2 = 6 + i$ .

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Question 10

Find  $5z_1 - 4z_2 + z_3$  where  $z_1 = 3 + 4i$ ,  $z_2 = 1 - 3i$  and  $z_3 = 4 + 2i$ .