

A2.N.9: Addition and Subtraction of Complex Numbers: Perform arithmetic operations on complex numbers and write the answer in the form $a+bi$

- 1 Melissa and Joe are playing a game with complex numbers. If Melissa has a score of $5 - 4i$ and Joe has a score of $3 + 2i$, what is their total score?
 - 1) $8 + 6i$
 - 2) $8 + 2i$
 - 3) $8 - 6i$
 - 4) $8 - 2i$
- 2 What is the sum of $5 - 3i$ and the conjugate of $3 + 2i$?
 - 1) $2 + 5i$
 - 2) $2 - 5i$
 - 3) $8 + 5i$
 - 4) $8 - 5i$
- 3 What is the sum of $2 - \sqrt{-4}$ and $-3 + \sqrt{-16}$ expressed in $a + bi$ form?
 - 1) $-1 + 2i$
 - 2) $-1 + i\sqrt{20}$
 - 3) $-1 + 12i$
 - 4) $-14 + i$
- 4 Express and simplify in $a + bi$ form:
 $(12 + 3i) - (3 - i)$
- 5 Subtract $(3 - 2i)$ from $(-2 + 3i)$, and express in $a + bi$ form.
 - 1) $5 + 5i$
 - 2) $5 + i$
 - 3) $5 - i$
 - 4) $5 - 5i$
- 6 For all values of a and b , what is the additive inverse of $a + bi$?
 - 1) $a - bi$
 - 2) $-a + bi$
 - 3) $a + bi$
 - 4) $-a - bi$
- 7 The additive inverse of $2 - 3i$ is
 - 1) $-2 + 3i$
 - 2) $\frac{1}{2 - 3i}$
 - 3) $-2 - 3i$
 - 4) $2 + 3i$
- 8 Find the additive inverse of $-3 + 2i$.
 - 1) $3 + 2i$
 - 2) $-3 - 2i$
 - 3) $3 - 2i$
 - 4) $-3 + 2i$
- 9 If $(3 + 2i) + (2 + bi) = 5 - 4i$, the value of b is
 - 1) -2
 - 2) 2
 - 3) -6
 - 4) 6
- 10 Solve for x : $(5 - 2i) - (x + 4i) = 7 - 6i$.
 - 1) $5 - 2i$
 - 2) $5 + 2i$
 - 3) $-5 - 2i$
 - 4) $-5 + 2i$
- 11 If $4 + 2i - (a + 4i) = 9 - 2i$, find the value of a .
 - 1) 1
 - 2) -1
 - 3) 5
 - 4) -5

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Answer Section

1 ANS: 4 REF: 060111b

2 ANS: 4

$$\frac{5-3i+\text{conj}(3+2i)}{8-5i}$$

REF: 060810b

3 ANS: 1

$$(2 - \sqrt{-4}) + (-3 + \sqrt{-16}) = 2 - 2i + -3 + 4i = -1 + 2i$$

REF: 060401b

4 ANS:

$$9 + 4i$$

REF: 019607siii

5 ANS:

$$-5 + 5i$$

REF: 069609siii

6 ANS: 4

REF: 069520siii

7 ANS: 1

REF: 088719siii

8 ANS:

$$3 - 2i$$

REF: 068803siii

9 ANS: 3

REF: 018632siii

10 ANS:

$$-2$$

REF: 068610siii

11 ANS:

$$-5$$

REF: 019510siii