

Exercises - Complex Numbers

1

Which of the following is equal to $\sqrt{-1} - \sqrt{-4} + \sqrt{-9}$?

- A) i
- B) $2i$
- C) $3i$
- D) $4i$

2

Which of the following is equal to $\sqrt{-2} \cdot \sqrt{-8}$?

- A) $-4i$
- B) $4i$
- C) -4
- D) 4

3

Which of the following complex numbers is equal to $\frac{3-i}{3+i}$?

- A) $\frac{9}{10} - \frac{3i}{5}$
- B) $\frac{9}{10} + \frac{3i}{5}$
- C) $\frac{3}{5} - \frac{3i}{5}$
- D) $\frac{4}{5} - \frac{3i}{5}$

4

Which of the following is equal to $\frac{1}{2}(5i-3) - \frac{1}{3}(4i+5)$?

- A) $\frac{3}{2}i - \frac{5}{2}$
- B) $\frac{7}{6}i - \frac{7}{3}$
- C) $\frac{7}{6}i - \frac{19}{6}$
- D) $\frac{5}{6}i - \frac{17}{6}$

5

If $(4+i)^2 = a+bi$, what is the value of $a+b$?

6

If the expression $\frac{3-i}{1-2i}$ is rewritten in the form $a+bi$, in which a and b are real numbers, what is the value of $a+b$?