Practice 4

Definition of i, and Operations with Complex Numbers

Add or subtract as indicated and write the result in standard form.

1) $(3 - 6i) + (8 + 9i)$ 1) _____

A) $-11 - 3i$ B) $11 + 3i$ C) $-5 + 15i$ D) $11 - 3i$

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

A) $2 - 4i$ B) $2 + 4i$ C) $8 - 4i$ D) $-8 + 4i$

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

A) $-7 + 16i$ B) $-3 + 9i$ C) $1 + 2i$ D) $11 - 8i$

Find the product and write the result in standard form.

4) $-3i(4i - 4)$ 4) _____

A) $12i - 12i^2$ B) $-12 + 12i$ C) $12i + 12i^2$ D) $12 + 12i$

5) $(6 + 5i)(9 - 9i)$ 5) _____

A) $99 + 9i$ B) $9 + 99i$ C) $99 - 9i$ D) $-45i^2 - 9i + 54$

6) $(-3 - 7i)(2 + i)$ 6) _____

A) $-13 + 11i$ B) $1 - 17i$ C) $1 + 11i$ D) $-13 - 17i$

Divide and express the result in standard form.

7) $\frac{2}{2 - i}$ 7) _____

A) $\frac{4}{3} + \frac{2}{3}i$ B) $\frac{4}{3} - \frac{2}{3}i$ C) $\frac{4}{5} + \frac{2}{5}i$ D) $\frac{4}{5} - \frac{2}{5}i$

8) $\frac{4i}{2 + i}$ 8) _____

A) $\frac{4}{5} - \frac{8}{5}i$ B) $\frac{4}{3} + \frac{8}{3}i$ C) $\frac{4}{5} + \frac{8}{5}i$ D) $-\frac{4}{5} + \frac{8}{5}i$

Perform the indicated operations and write the result in standard form.

9) $\sqrt{-49} + \sqrt{-81}$ 9) _____

A) $63i$ B) -16 C) $16i$ D) $-16i$

10) $3\sqrt{-49} + 2\sqrt{-36}$ 10) _____

A) $-33i$ B) -33 C) $33i$ D) 33

11) $(\sqrt{-49})(\sqrt{-9})$ 11) _____

A) 21 B) -21 C) $21i^2$ D) $-21i$

Answer Key
Testname: 4_DEFINITION OF I, AND OPERATIONS WITH COMPLEX NUMBERS

1) B
2) D
3) C
4) D
5) C
6) B
7) C
8) C
9) C
10) C
11) B