

NAME: _____

A2.N.7: Simplify powers of i

1. 010705b, P.I. A2.N.7

The expression i^{25} is equivalent to

[A] $-i$ [B] -1 [C] i [D] 1

2. 010905b, P.I. A2.N.7

Which expression is equivalent to i^{55} ?

[A] -1 [B] $-i$ [C] 1 [D] i

3. 060615b, P.I. A2.N.7

Mrs. Donahue made up a game to help her class learn about imaginary numbers. The winner will be the student whose expression is equivalent to $-i$. Which expression will win the game?

[A] i^{46} [B] i^{48} [C] i^{49} [D] i^{47}

4. 080407b, P.I. A2.N.7

When simplified, $i^{27} + i^{34}$ is equal to

[A] i^{61} [B] $-i-1$ [C] i [D] $i-1$

5. 060819b, P.I. A2.N.7

The expression $i^{100} + i^{101} + i^{102}$ equals

[A] $-i$ [B] i [C] 1 [D] -1

6. 060315b, P.I. A2.N.7

What is the value of $i^{99} - i^3$?

[A] 1 [B] $-i$ [C] i^{96} [D] 0

7. 080215b, P.I. A2.N.7

Expressed in simplest form, $i^{16} + i^6 - 2i^5 + i^{13}$

[A] i [B] -1 [C] $-i$ [D] 1

8. 010415b, P.I. A2.N.7

If $f(x) = x^3 - 2x^2$, then $f(i)$ is equivalent to

[A] $-2 + i$ [B] $2 - i$ [C] $2 + i$ [D] $-2 - i$

9. 060410b, P.I. A2.N.7

The expression $i^0 \cdot i^1 \cdot i^2 \cdot i^3 \cdot i^4$ is equal to

[A] 1 [B] i [C] -1 [D] $-i$

10. 080702b, P.I. A2.N.7

The expression $3i(2i^2 - 5i)$ is equivalent to

[A] $-1 + 0i$ [B] $15 - 5i$
[C] $15 - 6i$ [D] $-15 - 5i$

11. 010518b, P.I. A2.N.7

The expression $\frac{i^{16}}{i^3}$ is equivalent to

[A] i [B] $-i$ [C] -1 [D] 1

A2.N.7: Simplify powers of i

[1] C

[2] B

[3] D

[4] B

[5] B

[6] D

[7] C

[8] B

[9] C

[10] C

[11] A