

NAME: _____

P.I. A2.N.6: Write square roots of negative numbers in terms of i

P.I. A2.N.7: Simplify powers of i

1. Simplify. $\sqrt{-9}$

2. Express $\sqrt{-8}$ in i notation.

- [A] $8i$ [B] $2i\sqrt{-2}$
[C] $\sqrt{-8}i$ [D] $2i\sqrt{2}$

3. Express $\sqrt{-80}$ in i notation.

- [A] $4i\sqrt{-5}$ [B] $\sqrt{-80}i$
[C] $4i\sqrt{5}$ [D] $80i$

4. Express $\sqrt{-75}$ in i notation.

- [A] $75i$ [B] $5i\sqrt{-3}$
[C] $\sqrt{-75}i$ [D] $5i\sqrt{3}$

5. Express $\sqrt{-72}$ in i notation.

- [A] $6i\sqrt{-2}$ [B] $\sqrt{-72}i$
[C] $6i\sqrt{2}$ [D] $72i$

6. Express $\sqrt{-20}$ in i notation.

- [A] $20i$ [B] $2i\sqrt{5}$
[C] $2i\sqrt{-5}$ [D] $\sqrt{-20}i$

7. Express $\sqrt{-27}$ in i notation.

- [A] $\sqrt{-27}i$ [B] $3i\sqrt{-3}$
[C] $3i\sqrt{3}$ [D] $27i$

8. Express $\sqrt{-12}$ in i notation.

- [A] $2i\sqrt{-3}$ [B] $\sqrt{-12}i$
[C] $12i$ [D] $2i\sqrt{3}$

9. Express $\sqrt{-125}$ in i notation.

- [A] $125i$ [B] $5i\sqrt{-5}$
[C] $5i\sqrt{5}$ [D] $\sqrt{-125}i$

10. Express $\sqrt{-180}$ in i notation.

- [A] $180i$ [B] $6i\sqrt{-5}$
[C] $6i\sqrt{5}$ [D] $\sqrt{-180}i$

Evaluate.

11. i^{76} [A] $-i$ [B] i [C] 1 [D] -1

12. i^{43} [A] -1 [B] 1 [C] $-i$ [D] i

13. i^{24} [A] $-i$ [B] i [C] 1 [D] -1

14. i^{86} [A] i [B] 1 [C] $-i$ [D] -1

15. i^{17} [A] i [B] -1 [C] 1 [D] $-i$

16. i^{76} [A] $-i$ [B] -1 [C] i [D] 1

17. i^{60} [A] i [B] -1 [C] $-i$ [D] 1

18. i^{39} [A] -1 [B] $-i$ [C] 1 [D] i

19. i^{81} [A] -1 [B] 1 [C] $-i$ [D] i

20. i^{19} [A] $-i$ [B] i [C] -1 [D] 1

- [1] 3i
- [2] D
- [3] C
- [4] D
- [5] C
- [6] B
- [7] C
- [8] D
- [9] C
- [10] C
- [11] C
- [12] C
- [13] C
- [14] D
- [15] A
- [16] D
- [17] D
- [18] B
- [19] D
- [20] A