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Complex numbers

1.(−8+4i)(1−i)
Which of the following is equivalent to the complex number shown above?
Note: $i = \sqrt{-1}$
A. −12+4i
B. −12+12i
C. −4+12i
D. −4+4i

2.$(4+i)^2$

Which of the following is equivalent to the complex number shown above?

Note: $i=\sqrt{-1}$

A. 15+8i

B. 15−8i

C. 17+8i

D. 17−8i

3.$i^4 + 4i^2 + 4$

Which of the following is equivalent to the complex number shown above?

Note: $i = \sqrt{-1}$

A. 1

B. -1

C. i + 4

D. $i - 4$

4.(1+i)(1−i)
Which of the following is equivalent to the complex number shown above?
Note: $i = \sqrt{-1}$
A. 2-2i
B. 2i
C. 0
D. 2

5. $\frac{i^2-16}{i+4}$

Which of the following is equivalent to the complex number shown above?

Note: $i = \sqrt{-1}$

A. i−4
B. i+4
C. −i−4
D. −i+4

6.i^{101}

Which of the following is equivalent to the complex number shown above?

Note: $i = \sqrt{-1}$

A.1
B.-1
C.i
D.-i

7. $\frac{3}{2+i}$

Which of the following is equivalent to the complex number shown above?

Note: $i = \sqrt{-1}$

A. 2−i

B. 2+i

C. $\frac{6+3i}{5}$

D. $\frac{6+3i}{5}$

8.$(5-7i+i^2)+(8i^3+12)$

The complex expression above is equivalent to the expression a+bi for the integer constants a and b. What is the value of a?

Note: $i=\sqrt{-1}$

A. 16
B. 17
C. 18
D. 19

9.$i^{11} + i^{13}$

Which of the following is equivalent to the complex number shown above?

Note: $i = \sqrt{-1}$

A. −2i

B. 2i

C. 0

D. 2

10. $8ix = -5$

What is the value of x in the equation above?

Note: $i = \sqrt{-1}$

A. $-\frac{8i}{5}$

B. $\frac{8i}{5}$

C. $-\frac{5i}{8}$

D. $\frac{5i}{8}$

11. $\frac{1}{1-6i} - \frac{1}{1+6i}$

Which of the following is equivalent to the complex number shown above?

Note: $i = \sqrt{-1}$

A. $\frac{12}{37}i$

B. $-\frac{12}{37}i$

C. $\frac{12}{37}$

D. $-\frac{12}{37}$

12.$P(n) = n^2 - 5n - 7$
What is the value of P(−3i)?
Note: $i = \sqrt{-1}$
A. −4+15i
B. −7+12i
C. −7+24i
D. −16+15i

13. $m^2 + 6m + 10 = 0$

Which of the following are solutions to the equation above?

I. -3+i

II. -3-i

III. 3+i

Note: $i = \sqrt{-1}$

A. I only

B. I and II only

C. I and III only

D. I, II, and III

14.$5 - i + (11 - i)z = 40 + 18i$
What is the value of z in the equation above?
Note: $i = \sqrt{-1}$
A. z=−19+24i
B. z=24+20i
C. z=3+2i
D. z=3.2+145i

15. $2i + 4h - 14 = 2ih$

What is the value of h in the equation above?

Note: $i = \sqrt{-1}$

A. h=3+i

B. h=$\frac{7}{2}$

C. h=7-i

D. h=$\frac{8}{3}$

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Thanks

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