Operations with Complex Numbers

Simplify each expression. Identify matching answers between Column 1 and Column 2. Put the letter of the matching problem in the blank.

1. $(3 - 4i) + (2 + 5i)$ _____

2. $(8 + 7i) - (5 + 9i)$ _____

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

4. $-8i(2 + 7i) + 30i$ _____

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

6. $5i^{27}$ _____

7. $(1 - 4i)(3 - 3i)$ _____

8. $(1 - 5i)^2 - (8 - 4i)$ _____

9. $\dfrac{10 - 2i}{i}$ _____

10. Solve: $x^2 - 6x + 25 = 0$ _____

11. $\dfrac{4i}{-1+i}$ _____

12. $i^2 + i^5 + 1$ _____

A. $(9 - 7i) - (15 + 4i)$

B. $(-7 - 3i) + (5 - 7i)$

C. $3i(4 - 5i) - 1$

D. $-2(3 - 4i) - (3 + 23i)$

E. $3i(7 - 2i) + 2(-2 - 11i) - i$

F. $8(9 + 3i) - 2(8 + 5i)$

G. $(2 - 4i)(-2 - 7i)$

H. i^{65}

I. $\dfrac{-1+5i}{i}$

J. $\dfrac{-10+5i}{-1-2i}$

K. $\dfrac{-1-8i}{1-2i}$

L. Solve: $(x - 3)^2 = -16$