

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Perform the operation and write the result in the standard form $a + bi$.

1) $(-8 + 5i) + (14 + 7i)$ 1) _____

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

3) $9i(4 - 2i)$ 3) _____

4) $(5 - 4i)(4 + 8i)$ 4) _____

5) $(7 + 3i)^2$ 5) _____

6) $(2 + 9i)(2 - 9i)$ 6) _____

7) $(7 + \sqrt{-16})(2 + \sqrt{-49})$ 7) _____

Write the quotient in the standard form $a + bi$.

8) $\frac{3}{4 - i}$ 8) _____

9) $\frac{4i}{3 + 5i}$ 9) _____

10) $\frac{2 - 8i}{5 - 4i}$ 10) _____

Use the definition of equality of complex numbers to find the real numbers x and y such that the equation is true.

11) $2 + xi = y + 6i$ 11) _____

12) $x - \sqrt{-144} = 5 + yi$ 12) _____