1. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-5 + 8i)(-2 + 7i)$$

A. $a \in [58, 68]$ and $b \in [19, 21]$

B. $a \in [-49, -43]$ and $b \in [-58, -48]$

C. $a \in [58, 68]$ and $b \in [-23, -18]$

D. $a \in [-49, -43]$ and $b \in [46, 55]$

E. $a \in [9, 11]$ and $b \in [55, 58]$

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2. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-72 + 33i}{5 + 4i}$$

A. $a \in [-228.5, -227]$ and $b \in [10, 12.5]$

B. $a \in [-12.5, -10.5]$ and $b \in [-3.5, -2.5]$

C. $a \in [-6, -5]$ and $b \in [452.5, 453.5]$

D. $a \in [-15.5, -13]$ and $b \in [8, 9.5]$

E. $a \in [-6, -5]$ and $b \in [10, 12.5]$

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3. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{18 - 88i}{-3 - i}$$

A. $a \in [3, 4]$ and $b \in [27.5, 29.5]$

B. $a \in [3, 4]$ and $b \in [281.5, 282.5]$

C. $a \in [-6.5, -4.5]$ and $b \in [86.5, 88.5]$

D. $a \in [-15.5, -14]$ and $b \in [24, 25]$

E. $a \in [33.5, 35.5]$ and $b \in [27.5, 29.5]$

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4. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-10 + 9i)(5 - 6i)$$

A. $a \in [-55, -47]$ and $b \in [-61, -52]$

B. $a \in [-107, -102]$ and $b \in [-16, -14]$

C. $a \in [0, 7]$ and $b \in [-108, -102]$

D. $a \in [-107, -102]$ and $b \in [13, 18]$

E. $a \in [0, 7]$ and $b \in [102, 112]$
