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

$$\frac{-54 - 44i}{-8 - 5i}$$

A. $a \in [6.3, 6.8]$ and $b \in [8, 9.5]$

B. $a \in [7.1, 7.9]$ and $b \in [81.5, 82.5]$

C. $a \in [1.85, 2.9]$ and $b \in [6, 8]$

D. $a \in [651.55, 652.15]$ and $b \in [0, 2.5]$

E. $a \in [7.1, 7.9]$ and $b \in [0, 2.5]$

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

$$(-8 - 9i)(-7 - 6i)$$

A. $a \in [55, 66]$ and $b \in [53, 58]$

B. $a \in [1, 3]$ and $b \in [-111, -110]$

C. $a \in [109, 116]$ and $b \in [13, 17]$

D. $a \in [1, 3]$ and $b \in [109, 113]$

E. $a \in [109, 116]$ and $b \in [-23, -11]$

3.

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4. Simplify the expression below and choose the interval the simplification is contained within.

$$6 - 3^2 + 5 \div 19 * 13 \div 17$$

A. $[15.19, 15.27]$

B. $[14.92, 15.11]$

C. $[-2.82, -2.58]$

D. $[-3.06, -2.91]$

E. None of the above

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5. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{\sqrt{65}}{17} + 3i^2$$

A. Not a Complex Number

B. Nonreal Complex

C. Rational

D. Irrational

E. Pure Imaginary

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6. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{15876}{81}}$$

A. Not a Real number

B. Whole

C. Integer

D. Rational

E. Irrational
