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

$$\frac{-36 - 88i}{6 + i}$$

A. $a \in [-3.87, -3.45]$ and $b \in [-16.4, -14.5]$

B. $a \in [-8.27, -7.2]$ and $b \in [-493.1, -490.7]$

C. $a \in [-8.27, -7.2]$ and $b \in [-13.8, -12.2]$

D. $a \in [-304.04, -303.28]$ and $b \in [-13.8, -12.2]$

E. $a \in [-6.36, -5.23]$ and $b \in [-88.9, -86.1]$

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

$$(7 + 9i)(2 + 6i)$$

A. $a \in [-43, -34]$ and $b \in [57, 63]$

B. $a \in [12, 17]$ and $b \in [51, 57]$

C. $a \in [64, 69]$ and $b \in [19, 27]$

D. $a \in [-43, -34]$ and $b \in [-66, -54]$

E. $a \in [64, 69]$ and $b \in [-27, -17]$

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

$$1 - 20 \div 17 * 13 - (12 * 16)$$

A. $[188, 195]$

B. $[-196, -186]$

C. $[-421, -420]$

D. $[-218, -202]$

E. None of the above

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

$$\frac{\sqrt{55}}{17} + \sqrt{-6}i$$

A. Pure Imaginary

B. Rational

C. Not a Complex Number

D. Nonreal Complex

E. Irrational

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

$$\sqrt{\frac{23104}{361}}$$

A. Whole

B. Integer

C. Rational

D. Not a Real number

E. Irrational
