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

$$20 - 19^2 + 8 \div 11 * 6 \div 12$$

A. $[381.08, 381.44]$

B. $[-340.89, -340.19]$

C. $[-341.1, -340.76]$

D. $[380.13, 381.24]$

E. None of the above

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

$$\frac{-4}{-17} + \sqrt{-9}i$$

A. Nonreal Complex

B. Rational

C. Irrational

D. Pure Imaginary

E. Not a Complex Number

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

$$-\sqrt{\frac{15876}{441}}$$

A. Rational

B. Not a Real number

C. Irrational

D. Integer

E. Whole

---

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

$$\frac{9 + 22i}{3 + 5i}$$

A. $a \in [2.6, 3.09]$ and $b \in [4.34, 4.72]$

B. $a \in [3.45, 5.12]$ and $b \in [20.5, 22.03]$

C. $a \in [136.76, 137.25]$ and $b \in [-0.04, 0.71]$

D. $a \in [3.45, 5.12]$ and $b \in [-0.04, 0.71]$

E. $a \in [-2.81, -1.51]$ and $b \in [3.24, 3.4]$

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

$$(-8 + 5i)(-4 + 2i)$$

A. $a \in [36, 44]$ and $b \in [3, 7]$

B. $a \in [25, 37]$ and $b \in [5, 17]$

C. $a \in [16, 28]$ and $b \in [30, 40]$

D. $a \in [16, 28]$ and $b \in [-44, -31]$

E. $a \in [36, 44]$ and $b \in [-9, 0]$