

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

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

- A. $a \in [-31, -26]$ and $b \in [34.79, 35.16]$
 - B. $a \in [3, 9]$ and $b \in [35.23, 36.44]$
 - C. $a \in [-31, -26]$ and $b \in [-35.11, -34.58]$
 - D. $a \in [39, 44]$ and $b \in [-19.64, -17.85]$
 - E. $a \in [39, 44]$ and $b \in [18.29, 19.65]$
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2. Simplify the expression below and choose the interval the simplification is contained within.

$$11 - 16^2 + 20 \div 18 * 10 \div 9$$

- A. $[-245.79, -244.45]$
 - B. $[267.63, 268.64]$
 - C. $[-244.59, -243.38]$
 - D. $[266.76, 267.03]$
 - E. None of the above
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3. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{-600}{10}}i + \sqrt{55}i$$

- A. Pure Imaginary
 - B. Nonreal Complex
 - C. Not a Complex Number
 - D. Rational
 - E. Irrational
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4. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{160000}{256}}$$

- A. Irrational
 - B. Whole
 - C. Rational
 - D. Integer
 - E. Not a Real number
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5. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{45 - 11i}{6 - 4i}$$

- A. $a \in [4.45, 7.1]$ and $b \in [1.7, 2.49]$
 - B. $a \in [7.19, 8.49]$ and $b \in [2.44, 2.88]$
 - C. $a \in [3.04, 5.42]$ and $b \in [-6.6, -2.63]$
 - D. $a \in [313.65, 314.89]$ and $b \in [1.7, 2.49]$
 - E. $a \in [4.45, 7.1]$ and $b \in [112.96, 114.87]$
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