

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

$$\sqrt{\frac{32400}{324}}$$

- A. Integer
- B. Rational
- C. Not a Real number
- D. Irrational
- E. Whole

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

$$(-10 - 4i)(-3 + 8i)$$

- A. $a \in [27, 32]$ and $b \in [-39, -27]$
- B. $a \in [-5, 1]$ and $b \in [89, 96]$
- C. $a \in [-5, 1]$ and $b \in [-97, -90]$
- D. $a \in [61, 63]$ and $b \in [64, 73]$
- E. $a \in [61, 63]$ and $b \in [-74, -66]$

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

$$19 - 4^2 + 17 \div 11 * 3 \div 15$$

- A. $[2.89, 3.09]$
- B. $[35.07, 35.37]$
- C. $[3.28, 3.57]$

- D. $[34.92, 35.1]$
- E. None of the above

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

$$\sqrt{\frac{0}{6}} + \sqrt{4}i$$

- A. Rational
- B. Nonreal Complex
- C. Pure Imaginary
- D. Not a Complex Number
- E. Irrational

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

$$\frac{-54 + 44i}{-5 - 2i}$$

- A. $a \in [12.25, 12.85]$ and $b \in [-4.5, -2]$
 - B. $a \in [181.4, 182.75]$ and $b \in [-12.5, -10.5]$
 - C. $a \in [6.2, 7.05]$ and $b \in [-330, -326]$
 - D. $a \in [9.45, 12.05]$ and $b \in [-23, -20.5]$
 - E. $a \in [6.2, 7.05]$ and $b \in [-12.5, -10.5]$
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