

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

$$\frac{-21}{0} + \sqrt{156}i$$

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

$$\sqrt{\frac{-833}{0}}i + \sqrt{195}i$$

- A. Nonreal Complex
 - B. Rational
 - C. Irrational
 - D. Pure Imaginary
 - E. Not a Complex Number
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3. Simplify the expression below and choose the interval the simplification is contained within.

$$14 - 3^2 + 11 \div 19 * 8 \div 9$$

- A. [5.28, 5.63]
- B. [4.7, 5.38]
- C. [23.49, 23.58]
- D. [22.8, 23.28]
- E. None of the above

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

$$15 - 9 \div 6 * 11 - (7 * 19)$$

- A. $[-136.5, -132.5]$
 - B. $[146.86, 151.86]$
 - C. $[-165.5, -155.5]$
 - D. $[-118.14, -109.14]$
 - E. None of the above
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5. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(5 - 4i)(-7 - 10i)$$

- A. $a \in [2, 6]$ and $b \in [74, 82]$
 - B. $a \in [-78, -72]$ and $b \in [-24, -18]$
 - C. $a \in [-78, -72]$ and $b \in [22, 30]$
 - D. $a \in [2, 6]$ and $b \in [-84, -77]$
 - E. $a \in [-36, -33]$ and $b \in [39, 47]$
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6. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{1848}{14}}$$

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

E. Integer

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

$$\frac{-36 - 66i}{2 + 7i}$$

- A. $a \in [-11.5, -9]$ and $b \in [1.5, 3]$
 - B. $a \in [-18.5, -17.5]$ and $b \in [-10, -8]$
 - C. $a \in [6.5, 8]$ and $b \in [-8.5, -7]$
 - D. $a \in [-536, -533.5]$ and $b \in [1.5, 3]$
 - E. $a \in [-11.5, -9]$ and $b \in [119, 120.5]$
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8. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{6}{0}}$$

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

$$\frac{-72 + 55i}{7 - 3i}$$

- A. $a \in [-671, -668]$ and $b \in [1.5, 4]$
- B. $a \in [-12.5, -10.5]$ and $b \in [168, 170]$

- C. $a \in [-11, -9.5]$ and $b \in [-19, -17]$
 - D. $a \in [-7, -5.5]$ and $b \in [9, 11]$
 - E. $a \in [-12.5, -10.5]$ and $b \in [1.5, 4]$
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10. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-2 - 4i)(10 - 3i)$$

- A. $a \in [-37, -28]$ and $b \in [29, 35]$
 - B. $a \in [-37, -28]$ and $b \in [-34, -33]$
 - C. $a \in [-24, -16]$ and $b \in [12, 18]$
 - D. $a \in [-9, -5]$ and $b \in [-46, -42]$
 - E. $a \in [-9, -5]$ and $b \in [40, 48]$
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