

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

$$\frac{9 - 77i}{4 + 3i}$$

- A. $a \in [-195.5, -194.5]$ and $b \in [-14.5, -12.5]$
 - B. $a \in [-9.5, -7]$ and $b \in [-335.5, -334]$
 - C. $a \in [10, 11]$ and $b \in [-12.5, -10.5]$
 - D. $a \in [-9.5, -7]$ and $b \in [-14.5, -12.5]$
 - E. $a \in [1.5, 3]$ and $b \in [-26.5, -24.5]$
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2. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-10 - 8i)(-6 - 7i)$$

- A. $a \in [113, 118]$ and $b \in [-26, -18]$
 - B. $a \in [0, 7]$ and $b \in [-122, -115]$
 - C. $a \in [58, 69]$ and $b \in [54, 62]$
 - D. $a \in [113, 118]$ and $b \in [18, 27]$
 - E. $a \in [0, 7]$ and $b \in [113, 124]$
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3. Simplify the expression below and choose the interval the simplification is contained within.

$$19 - 3 \div 2 * 8 - (18 * 13)$$

- A. $[252.81, 255.81]$
- B. $[-146, -139]$
- C. $[-231, -219]$
- D. $[-221.19, -212.19]$

E. None of the above

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

$$\sqrt{\frac{64}{169}} + 49i^2$$

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

$$\sqrt{\frac{529}{25}}$$

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

$$\frac{72 - 11i}{3 + 6i}$$

- A. $a \in [149.5, 151]$ and $b \in [-11.5, -9.5]$
- B. $a \in [23, 25.5]$ and $b \in [-2.5, -1.5]$

- C. $a \in [1.5, 4]$ and $b \in [-466, -464.5]$
 - D. $a \in [1.5, 4]$ and $b \in [-11.5, -9.5]$
 - E. $a \in [5, 6.5]$ and $b \in [8.5, 10.5]$
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7. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-6 - 8i)(2 + 4i)$$

- A. $a \in [17, 23]$ and $b \in [35, 43]$
 - B. $a \in [-15, -10]$ and $b \in [-34, -30]$
 - C. $a \in [-45, -40]$ and $b \in [6, 9]$
 - D. $a \in [-45, -40]$ and $b \in [-12, -5]$
 - E. $a \in [17, 23]$ and $b \in [-41, -34]$
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8. Simplify the expression below and choose the interval the simplification is contained within.

$$3 - 6^2 + 10 \div 19 * 9 \div 8$$

- A. $[-32.78, -32.26]$
 - B. $[-33.09, -32.91]$
 - C. $[39.55, 39.75]$
 - D. $[38.63, 39.25]$
 - E. None of the above
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9. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{576}{121}} + 9i^2$$

- A. Rational

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

$$-\sqrt{\frac{529}{400}}$$

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