

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

$$(-7 - 10i)(4 - 2i)$$

- A. $a \in [-8, -3]$ and $b \in [-57, -53]$
 - B. $a \in [-50, -41]$ and $b \in [21, 31]$
 - C. $a \in [-32, -24]$ and $b \in [20, 21]$
 - D. $a \in [-50, -41]$ and $b \in [-26, -25]$
 - E. $a \in [-8, -3]$ and $b \in [47, 55]$
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2. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{18}{-20} + \sqrt{-49}i$$

- A. Irrational
 - B. Nonreal Complex
 - C. Pure Imaginary
 - D. Rational
 - E. Not a Complex Number
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3. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{54 - 22i}{-3 + 5i}$$

- A. $a \in [-272.5, -271.5]$ and $b \in [-6.5, -5.5]$
- B. $a \in [-9, -7.5]$ and $b \in [-204.5, -203.5]$
- C. $a \in [-9, -7.5]$ and $b \in [-6.5, -5.5]$
- D. $a \in [-2.5, -1]$ and $b \in [8.5, 10.5]$

E. $a \in [-19, -16]$ and $b \in [-4.5, -2.5]$

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

$$\sqrt{\frac{2145}{13}}$$

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

$$\frac{-27 + 44i}{6 + i}$$

- A. $a \in [-5.2, -4.05]$ and $b \in [42.5, 44.5]$
 - B. $a \in [-6, -5.25]$ and $b \in [6, 6.5]$
 - C. $a \in [-3.75, -2.85]$ and $b \in [290.5, 292.5]$
 - D. $a \in [-3.75, -2.85]$ and $b \in [6.5, 8.5]$
 - E. $a \in [-118.15, -117.85]$ and $b \in [6.5, 8.5]$
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6. Simplify the expression below and choose the interval the simplification is contained within.

$$10 - 19 \div 12 * 16 - (4 * 11)$$

- A. $[52.9, 56.9]$
- B. $[-61.33, -57.33]$

C. $[-214.67, -207.67]$

D. $[-42.1, -27.1]$

E. None of the above

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

$$\sqrt{\frac{24336}{144}}$$

A. Integer

B. Not a Real number

C. Irrational

D. Rational

E. Whole

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

$$6 - 16^2 + 5 \div 18 * 2 \div 8$$

A. $[-250, -249.97]$

B. $[262.06, 262.09]$

C. $[261.98, 262.04]$

D. $[-249.95, -249.91]$

E. None of the above

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

$$\sqrt{\frac{484}{441}} + \sqrt{208}i$$

A. Not a Complex Number

- B. Irrational
 - C. Pure Imaginary
 - D. Rational
 - E. Nonreal Complex
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10. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-8 - 9i)(3 + 4i)$$

- A. $a \in [-30, -19]$ and $b \in [-36, -35]$
 - B. $a \in [12, 14]$ and $b \in [59, 69]$
 - C. $a \in [-64, -57]$ and $b \in [3, 6]$
 - D. $a \in [12, 14]$ and $b \in [-62, -56]$
 - E. $a \in [-64, -57]$ and $b \in [-6, -3]$
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