

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

$$-\sqrt{\frac{1404}{12}}$$

- A. Irrational
 - B. Not a Real number
 - C. Rational
 - D. Integer
 - E. Whole
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2. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{81}{196}}$$

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

$$(-7 + 9i)(-5 - 10i)$$

- A. $a \in [-57, -54]$ and $b \in [-119, -114]$
- B. $a \in [122, 129]$ and $b \in [24, 27]$
- C. $a \in [-57, -54]$ and $b \in [111, 121]$
- D. $a \in [33, 36]$ and $b \in [-90, -86]$
- E. $a \in [122, 129]$ and $b \in [-25, -19]$

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

$$\frac{-9 + 66i}{2 + 8i}$$

- A. $a \in [7, 8]$ and $b \in [1.5, 5]$
B. $a \in [-9, -7]$ and $b \in [0.5, 1.5]$
C. $a \in [509, 510.5]$ and $b \in [1.5, 5]$
D. $a \in [-6, -3.5]$ and $b \in [6.5, 9.5]$
E. $a \in [7, 8]$ and $b \in [203, 204.5]$
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5. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{-12}{-11} + \sqrt{-25}i$$

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

$$12 - 3 \div 10 * 15 - (9 * 2)$$

- A. $[27.9, 33.7]$
B. $[-5.4, -1]$
C. $[-11.7, -8]$

- D. $[-8.6, -5.5]$
E. None of the above
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7. Simplify the expression below and choose the interval the simplification is contained within.

$$17 - 2 \div 1 * 9 - (16 * 13)$$

- A. $[223.78, 225.78]$
B. $[-210, -204]$
C. $[-194.22, -185.22]$
D. $[-224, -218]$
E. None of the above
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8. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{15}{-17} + 4i^2$$

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

$$(10 - 4i)(-6 + 7i)$$

- A. $a \in [-63, -58]$ and $b \in [-34, -25]$
B. $a \in [-91, -85]$ and $b \in [-49, -40]$

- C. $a \in [-91, -85]$ and $b \in [46, 54]$
 - D. $a \in [-38, -29]$ and $b \in [-96, -91]$
 - E. $a \in [-38, -29]$ and $b \in [92, 95]$
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10. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{27 - 55i}{-7 + 6i}$$

- A. $a \in [-7, -5]$ and $b \in [222, 224]$
 - B. $a \in [-7, -5]$ and $b \in [2.5, 3]$
 - C. $a \in [0.5, 2]$ and $b \in [5, 7]$
 - D. $a \in [-520, -518]$ and $b \in [2.5, 3]$
 - E. $a \in [-4, -3]$ and $b \in [-10.5, -8.5]$
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