

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

$$\frac{0}{16\pi} + \sqrt{9}i$$

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

$$\frac{54 + 55i}{-4 + i}$$

- A. $a \in [-161.5, -159.5]$ and $b \in [-17, -15]$
 - B. $a \in [-17, -14.5]$ and $b \in [-10.5, -8.5]$
 - C. $a \in [-11, -8.5]$ and $b \in [-17, -15]$
 - D. $a \in [-11, -8.5]$ and $b \in [-276, -272.5]$
 - E. $a \in [-14.5, -12.5]$ and $b \in [54.5, 55.5]$
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3. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-5 + 3i)(-2 + 8i)$$

- A. $a \in [34, 37]$ and $b \in [33, 37]$
- B. $a \in [34, 37]$ and $b \in [-37, -33]$
- C. $a \in [-16, -10]$ and $b \in [-50, -44]$
- D. $a \in [5, 16]$ and $b \in [14, 30]$

E. $a \in [-16, -10]$ and $b \in [46, 54]$

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

$$\frac{-63 + 11i}{-5 - 6i}$$

- A. $a \in [248, 249.5]$ and $b \in [-8, -6]$
B. $a \in [4, 4.5]$ and $b \in [-433.5, -432]$
C. $a \in [12, 14]$ and $b \in [-2, -1]$
D. $a \in [4, 4.5]$ and $b \in [-8, -6]$
E. $a \in [6, 7]$ and $b \in [3.5, 5.5]$
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5. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{360000}{625}}$$

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

$$\sqrt{\frac{-1386}{9}}$$

- A. Not a Real number
B. Integer

C. Irrational

D. Whole

E. Rational

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

$$16 - 3 \div 1 * 15 - (2 * 8)$$

A. $[25.8, 32.8]$

B. $[-48, -42]$

C. $[-2.2, 0.8]$

D. $[-253, -243]$

E. None of the above

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

$$\sqrt{\frac{770}{11}} + \sqrt{143}i$$

A. Not a Complex Number

B. Irrational

C. Nonreal Complex

D. Rational

E. Pure Imaginary

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

$$(7 + 2i)(-5 - 9i)$$

A. $a \in [-37, -31]$ and $b \in [-24, -13]$

- B. $a \in [-53, -52]$ and $b \in [53, 56]$
 - C. $a \in [-18, -13]$ and $b \in [-78, -68]$
 - D. $a \in [-18, -13]$ and $b \in [70, 75]$
 - E. $a \in [-53, -52]$ and $b \in [-54, -52]$
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10. Simplify the expression below and choose the interval the simplification is contained within.

$$14 - 3^2 + 9 \div 12 * 11 \div 17$$

- A. $[23.28, 23.96]$
 - B. $[22.06, 23.09]$
 - C. $[4.84, 5.01]$
 - D. $[5.06, 5.61]$
 - E. None of the above
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