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

$$\sqrt{\frac{-1560}{12}}$$

A. Whole

B. Irrational

C. Integer

D. Not a Real number

E. Rational

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

$$\sqrt{\frac{-1716}{12}} + \sqrt{130}$$

A. Not a Complex Number

B. Nonreal Complex

C. Pure Imaginary

D. Irrational

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.

$$(-5 - 7i)(9 + 3i)$$

A. $a \in [-25, -20]$ and $b \in [-82, -74]$

B. $a \in [-67, -65]$ and $b \in [48, 49]$

C. $a \in [-49, -40]$ and $b \in [-23, -19]$

D. $a \in [-25, -20]$ and $b \in [78, 80]$

E. $a \in [-67, -65]$ and $b \in [-52, -47]$

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

$$\frac{-63 + 44i}{2 + 5i}$$

A. $a \in [92, 94.5]$ and $b \in [13, 14.5]$

B. $a \in [-32.5, -29]$ and $b \in [8.5, 10]$

C. $a \in [2, 5]$ and $b \in [400.5, 404]$

D. $a \in [2, 5]$ and $b \in [13, 14.5]$

E. $a \in [-12.5, -11.5]$ and $b \in [-8.5, -7.5]$

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

$$\sqrt{\frac{2431}{11}} + \sqrt{119}i$$

A. Irrational

B. Nonreal Complex

C. Not a Complex Number

D. Rational

E. Pure Imaginary

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

$$9 - 7^2 + 5 \div 13 * 15 \div 3$$

A. $[-39.4, -35.9]$

B. $[58.2, 60.9]$

C. $[56.7, 59.1]$

D. $[-41.6, -38.7]$

E. None of the above

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

$$\frac{45 - 33i}{-8 - 7i}$$

A. $a \in [-5.83, -5.57]$ and $b \in [4.5, 5]$

B. $a \in [-1.2, -0.95]$ and $b \in [578.25, 579.6]$

C. $a \in [-1.2, -0.95]$ and $b \in [4.75, 5.25]$

D. $a \in [-129.11, -128.9]$ and $b \in [4.75, 5.25]$

E. $a \in [-5.48, -5.08]$ and $b \in [-0.9, 0.1]$

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

$$(10 + 6i)(9 + 4i)$$

A. $a \in [109, 115]$ and $b \in [8, 22]$

B. $a \in [65, 67]$ and $b \in [93, 95]$

C. $a \in [88, 98]$ and $b \in [17, 25]$

D. $a \in [109, 115]$ and $b \in [-14, -11]$

E. $a \in [65, 67]$ and $b \in [-96, -90]$

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

$$-\sqrt{\frac{97344}{169}}$$

A. Integer

B. Rational

C. Not a Real number

D. Whole

E. Irrational

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

$$10 - 8^2 + 7 \div 13 * 5 \div 16$$

A. $[73.94, 74.07]$

B. $[-53.94, -53.7]$

C. $[-54.05, -53.87]$

D. $[74.12, 74.25]$

E. None of the above
