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

$$\sqrt{\frac{-2730}{0}} + \sqrt{221}$$

A. Nonreal Complex

B. Not a Complex Number

C. Rational

D. Irrational

E. Pure Imaginary

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

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

A. $a \in [509.5, 511.5]$ and $b \in [2.5, 3.5]$

B. $a \in [7, 9]$ and $b \in [203.5, 205]$

C. $a \in [7, 9]$ and $b \in [2.5, 3.5]$

D. $a \in [-7, -4]$ and $b \in [8, 9]$

E. $a \in [-9, -7.5]$ and $b \in [-1, 1.5]$

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

$$(-6 - 3i)(-4 + 8i)$$

A. $a \in [0, 3]$ and $b \in [-61, -59]$

B. $a \in [22, 30]$ and $b \in [-27, -19]$

C. $a \in [42, 50]$ and $b \in [36, 41]$

D. $a \in [0, 3]$ and $b \in [55, 62]$

E. $a \in [42, 50]$ and $b \in [-39, -31]$

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

$$\sqrt{\frac{-3570}{0}}i + \sqrt{130}i$$

A. Rational

B. Nonreal Complex

C. Irrational

D. Not a Complex Number

E. Pure Imaginary

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

$$(8 + 5i)(-4 - 9i)$$

A. $a \in [-79, -73]$ and $b \in [-52, -49]$

B. $a \in [-79, -73]$ and $b \in [50, 55]$

C. $a \in [-35, -29]$ and $b \in [-45, -41]$

D. $a \in [5, 14]$ and $b \in [-95, -89]$

E. $a \in [5, 14]$ and $b \in [90, 96]$

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

$$\frac{9 - 66i}{-3 - 4i}$$

A. $a \in [236, 238.5]$ and $b \in [8.5, 10.5]$

B. $a \in [8.5, 10]$ and $b \in [8.5, 10.5]$

C. $a \in [-3.5, -1.5]$ and $b \in [16, 17.5]$

D. $a \in [8.5, 10]$ and $b \in [233, 235.5]$

E. $a \in [-13, -11]$ and $b \in [5, 6.5]$

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

$$11 - 18 \div 19 * 2 - (6 * 17)$$

A. $[49.1, 55.9]$

B. $[112.2, 113.7]$

C. $[-92, -86.8]$

D. $[-94.5, -92.1]$

E. None of the above

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

$$\sqrt{\frac{1664}{8}}$$

A. Integer

B. Whole

C. Irrational

D. Rational

E. Not a Real number

---

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

$$11 - 15 \div 3 * 12 - (6 * 5)$$

A. $[-279, -274]$

B. $[-81, -77]$

C. $[40.58, 45.58]$

D. $[-19.42, -18.42]$

E. None of the above

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

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

A. Irrational

B. Not a Real number

C. Integer

D. Rational

E. Whole
