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

$$\sqrt{\frac{1547}{13}} + 10i^2$$

A. Rational

B. Nonreal Complex

C. Irrational

D. Pure Imaginary

E. Not a Complex Number

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

$$\sqrt{\frac{0}{14}} + \sqrt{10}i$$

A. Rational

B. Not a Complex Number

C. Nonreal Complex

D. Irrational

E. Pure Imaginary

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

$$4 - 8^2 + 15 \div 5 * 10 \div 9$$

A. $[66.4, 68.6]$

B. $[-57.8, -56.4]$

C. $[-60, -58.8]$

D. $[69.1, 73.9]$

E. None of the above

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

$$8 - 20^2 + 13 \div 18 * 6 \div 1$$

A. $[-392.1, -390.4]$

B. $[404.2, 408.6]$

C. $[411.3, 413.3]$

D. $[-390.7, -387.2]$

E. None of the above

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

$$(3 - 6i)(5 + 4i)$$

A. $a \in [8, 16]$ and $b \in [-24, -23]$

B. $a \in [34, 46]$ and $b \in [-22, -17]$

C. $a \in [-9, -4]$ and $b \in [-42, -41]$

D. $a \in [34, 46]$ and $b \in [17, 20]$

E. $a \in [-9, -4]$ and $b \in [42, 43]$

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

$$\sqrt{\frac{190969}{529}}$$

A. Integer

B. Rational

C. Not a Real number

D. Whole

E. Irrational

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

$$\frac{-54 + 55i}{2 - 7i}$$

A. $a \in [-10.5, -9]$ and $b \in [-269, -267.5]$

B. $a \in [-28.5, -25.5]$ and $b \in [-8.5, -7]$

C. $a \in [-10.5, -9]$ and $b \in [-6.5, -3.5]$

D. $a \in [-493.5, -491.5]$ and $b \in [-6.5, -3.5]$

E. $a \in [2.5, 6]$ and $b \in [8, 10]$

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

$$-\sqrt{\frac{48400}{100}}$$

A. Integer

B. Rational

C. Not a Real number

D. Whole

E. Irrational

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

$$\frac{36 - 33i}{-2 + i}$$

A. $a \in [-22, -19.5]$ and $b \in [29.5, 30.5]$

B. $a \in [-19.5, -17]$ and $b \in [-34.5, -31]$

C. $a \in [-8.5, -7]$ and $b \in [19, 21]$

D. $a \in [-105.5, -104]$ and $b \in [4.5, 7]$

E. $a \in [-22, -19.5]$ and $b \in [4.5, 7]$

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

$$(4 - 7i)(-10 + 3i)$$

A. $a \in [-41, -36]$ and $b \in [-22, -20]$

B. $a \in [-19, -16]$ and $b \in [-87, -74]$

C. $a \in [-19, -16]$ and $b \in [72, 84]$

D. $a \in [-65, -57]$ and $b \in [58, 60]$

E. $a \in [-65, -57]$ and $b \in [-59, -52]$
