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

$$\sqrt{\frac{24}{0}}$$

A. Not a Real number

B. Rational

C. Integer

D. Irrational

E. Whole

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

$$19 - 12 \div 13 * 6 - (5 * 2)$$

A. $[-1, 6]$

B. $[36, 44]$

C. $[7, 12]$

D. $[15, 21]$

E. $[23, 36]$

---

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

$$\frac{23\pi}{0} + 7i^2$$

A. Irrational

B. Not a Complex Number

C. Nonreal Complex

D. Pure Imaginary

E. Rational

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

$$(-8 + 2i)(-4 + 6i)$$

$a =$ ☐ $b =$ ☐

A. $a \in [28, 34]$ and $b \in [10, 15]$

B. $a \in [17, 21]$ and $b \in [54, 60]$

C. $a \in [39, 49]$ and $b \in [38, 42]$

D. $a \in [39, 49]$ and $b \in [-44, -39]$

E. $a \in [17, 21]$ and $b \in [-60, -53]$

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

$$\frac{45 + 22i}{3 + 4i}$$

$a =$ ☐ $b =$ ☐

A. $a \in [218, 226]$ and $b \in [-7, 1]$

B. $a \in [-1, 3]$ and $b \in [7, 15]$

C. $a \in [11, 20]$ and $b \in [3, 9]$

D. $a \in [8, 12]$ and $b \in [-119, -106]$

E. $a \in [8, 12]$ and $b \in [-7, 1]$
