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

$$\frac{0}{-2\pi} + \sqrt{4}i$$

A. Rational

B. Nonreal Complex

C. Not a Complex Number

D. Irrational

E. Pure Imaginary

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

$$4 - 15 \div 6 * 14 - (3 * 19)$$

A. $[-53.18, -50.18]$

B. $[-92, -83]$

C. $[56.82, 66.82]$

D. $[-653, -641]$

E. None of the above

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

$$11 - 4^2 + 5 \div 3 * 16 \div 18$$

A. $[-7, -4.2]$

B. $[27.7, 29.2]$

C. $[24, 27.1]$

D. $[-3.9, -1.8]$

E. None of the above

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

$$-\sqrt{\frac{14}{0}}$$

A. Rational

B. Irrational

C. Integer

D. Not a Real number

E. Whole

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

$$\frac{36 - 22i}{8 - i}$$

A. $a \in [309.95, 310.2]$ and $b \in [-2.5, -1]$

B. $a \in [4.55, 5.35]$ and $b \in [-140.5, -138.5]$

C. $a \in [4.55, 5.35]$ and $b \in [-2.5, -1]$

D. $a \in [4.15, 4.65]$ and $b \in [21.5, 22.5]$

E. $a \in [3.65, 4.25]$ and $b \in [-3.5, -3]$

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

$$\frac{-21}{0} + \sqrt{99}i$$

A. Nonreal Complex

B. Not a Complex Number

C. Rational

D. Pure Imaginary

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.

$$(9 - 7i)(-5 + 4i)$$

A. $a \in [-20, -13]$ and $b \in [-73, -67]$

B. $a \in [-56, -44]$ and $b \in [-32, -24]$

C. $a \in [-20, -13]$ and $b \in [71, 74]$

D. $a \in [-74, -72]$ and $b \in [1, 6]$

E. $a \in [-74, -72]$ and $b \in [-2, 0]$

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

$$\frac{-27 - 77i}{4 - i}$$

A. $a \in [-11.5, -9.5]$ and $b \in [-17, -16]$

B. $a \in [-31.5, -29.5]$ and $b \in [-21, -19]$

C. $a \in [-8.5, -6]$ and $b \in [76.5, 78]$

D. $a \in [-3, -1.5]$ and $b \in [-21, -19]$

E. $a \in [-3, -1.5]$ and $b \in [-336, -333]$

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

$$(8 - 2i)(6 + 3i)$$

A. $a \in [53, 55]$ and $b \in [-12, -7]$

B. $a \in [38, 43]$ and $b \in [33, 38]$

C. $a \in [38, 43]$ and $b \in [-40, -30]$

D. $a \in [46, 52]$ and $b \in [-7, -4]$

E. $a \in [53, 55]$ and $b \in [5, 14]$

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

$$-\sqrt{\frac{8100}{36}}$$

A. Irrational

B. Not a Real number

C. Integer

D. Whole

E. Rational
