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

$$-\sqrt{\frac{8100}{25}}$$

A. Not a Real number

B. Irrational

C. Integer

D. Whole

E. Rational

---

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

$$19 - 6 \div 16 * 17 - (11 * 20)$$

A. $[233.98, 240.98]$

B. $[-210.38, -206.38]$

C. $[-202.02, -198.02]$

D. $[29.5, 40.5]$

E. None of the above

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

$$12 - 13 \div 5 * 9 - (6 * 18)$$

A. $[-124.4, -115.4]$

B. $[113.71, 127.71]$

C. $[-315.2, -310.2]$

D. $[-98.29, -91.29]$

E. None of the above

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

$$\frac{-7}{5} + \sqrt{-36}i$$

A. Not a Complex Number

B. Pure Imaginary

C. Irrational

D. Rational

E. Nonreal Complex

---

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

$$(8 - 5i)(2 + 9i)$$

A. $a \in [59, 62]$ and $b \in [58, 63]$

B. $a \in [13, 20]$ and $b \in [-49, -44]$

C. $a \in [-29, -24]$ and $b \in [-86, -72]$

D. $a \in [-29, -24]$ and $b \in [76, 86]$

E. $a \in [59, 62]$ and $b \in [-64, -61]$

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

$$\frac{-27 + 77i}{-8 + 6i}$$

A. $a \in [6, 7.5]$ and $b \in [-5.5, -3.5]$

B. $a \in [6, 7.5]$ and $b \in [-455, -452.5]$

C. $a \in [-3.5, -2]$ and $b \in [-8.5, -7.5]$

D. $a \in [677.5, 678.5]$ and $b \in [-5.5, -3.5]$

E. $a \in [2.5, 4]$ and $b \in [11.5, 13.5]$

---

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

$$\frac{-11}{22} + \sqrt{77}i$$

A. Not a Complex Number

B. Irrational

C. Rational

D. Nonreal Complex

E. Pure Imaginary

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

$$(10 - 3i)(9 - 2i)$$

A. $a \in [82.6, 84.1]$ and $b \in [-47.66, -46.81]$

B. $a \in [93.2, 97.7]$ and $b \in [6.8, 7.95]$

C. $a \in [93.2, 97.7]$ and $b \in [-7.15, -4.69]$

D. $a \in [82.6, 84.1]$ and $b \in [46.23, 47.92]$

E. $a \in [85.4, 90.6]$ and $b \in [4.47, 6.03]$

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

$$\frac{72 + 22i}{-6 - i}$$

A. $a \in [-12.45, -12.05]$ and $b \in [-2.5, -1]$

B. $a \in [-11.17, -10.85]$ and $b \in [-6, -4.5]$

C. $a \in [-12.12, -11.76]$ and $b \in [-23, -21.5]$

D. $a \in [-12.45, -12.05]$ and $b \in [-60.5, -59.5]$

E. $a \in [-454.37, -453.81]$ and $b \in [-2.5, -1]$

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

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

A. Not a Real number

B. Irrational

C. Whole

D. Integer

E. Rational
