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

$$-\sqrt{\frac{186624}{324}}$$

A. Whole

B. Irrational

C. Not a Real number

D. Integer

E. Rational

---

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

$$(2 + 10i)(-6 + 3i)$$

A. $a \in [17, 22]$ and $b \in [65, 68]$

B. $a \in [-12, -7]$ and $b \in [28, 31]$

C. $a \in [17, 22]$ and $b \in [-67, -65]$

D. $a \in [-43, -41]$ and $b \in [53, 60]$

E. $a \in [-43, -41]$ and $b \in [-54, -51]$

---

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

$$3 - 12 \div 6 * 7 - (1 * 8)$$

A. $[-22, -18]$

B. $[-8.29, 0.71]$

C. $[-97, -94]$

D. $[10.71, 12.71]$

E. None of the above

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

$$-\sqrt{\frac{-2431}{13}}$$

A. Rational

B. Irrational

C. Whole

D. Integer

E. Not a Real number

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

$$(-9 + 3i)(-7 - 10i)$$

A. $a \in [92, 98]$ and $b \in [67, 71]$

B. $a \in [28, 39]$ and $b \in [-116, -108]$

C. $a \in [28, 39]$ and $b \in [108, 116]$

D. $a \in [55, 65]$ and $b \in [-31, -28]$

E. $a \in [92, 98]$ and $b \in [-73, -65]$

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

$$\frac{-54 - 77i}{-1 + 8i}$$

A. $a \in [-9.5, -7]$ and $b \in [508, 510]$

B. $a \in [-9.5, -7]$ and $b \in [6.5, 8.5]$

C. $a \in [-563.5, -561]$ and $b \in [6.5, 8.5]$

D. $a \in [52.5, 54.5]$ and $b \in [-10, -9]$

E. $a \in [9.5, 11]$ and $b \in [-6, -4.5]$

---

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

$$\frac{14}{-5} + \sqrt{-25}i$$

A. Irrational

B. Not a Complex Number

C. Pure Imaginary

D. Rational

E. Nonreal Complex

---

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

$$15 - 10 \div 1 * 3 - (13 * 6)$$

A. $[-68.33, -61.33]$

B. $[-168, -163]$

C. $[-94, -89]$

D. $[86.67, 90.67]$

E. None of the above

---

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

$$\frac{-9 + 55i}{-7 - 3i}$$

A. $a \in [2.5, 5.5]$ and $b \in [-7, -6]$

B. $a \in [-103, -101]$ and $b \in [-7.5, -6.5]$

C. $a \in [-2, 0]$ and $b \in [-7.5, -6.5]$

D. $a \in [1, 2]$ and $b \in [-18.5, -17.5]$

E. $a \in [-2, 0]$ and $b \in [-413, -411.5]$

---

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

$$\sqrt{\frac{-952}{0}}i + \sqrt{110}i$$

A. Irrational

B. Pure Imaginary

C. Rational

D. Nonreal Complex

E. Not a Complex Number
