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

$$\frac{54 + 44i}{7 - 5i}$$

A. $a \in [7.75, 8.5]$ and $b \in [0, 1]$

B. $a \in [1.9, 2.35]$ and $b \in [6.5, 9]$

C. $a \in [7.25, 7.9]$ and $b \in [-9, -8]$

D. $a \in [1.9, 2.35]$ and $b \in [577.5, 578.5]$

E. $a \in [157.75, 158.4]$ and $b \in [6.5, 9]$

---

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

$$\sqrt{\frac{-1980}{10}}$$

A. Irrational

B. Whole

C. Integer

D. Not a Real number

E. Rational

---

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

$$\sqrt{\frac{-935}{11}} + \sqrt{0}i$$

A. Nonreal Complex

B. Rational

C. Irrational

D. Pure Imaginary

E. Not a Complex Number

---

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

$$(5 - 6i)(-10 - 7i)$$

A. $a \in [-92, -89]$ and $b \in [-27, -23]$

B. $a \in [-8, -5]$ and $b \in [90, 99]$

C. $a \in [-92, -89]$ and $b \in [24, 29]$

D. $a \in [-50, -47]$ and $b \in [41, 47]$

E. $a \in [-8, -5]$ and $b \in [-98, -92]$

---

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

$$(-7 + 8i)(4 + 6i)$$

A. $a \in [18, 22]$ and $b \in [-74, -69]$

B. $a \in [-79, -66]$ and $b \in [-15, -9]$

C. $a \in [-79, -66]$ and $b \in [8, 11]$

D. $a \in [-31, -25]$ and $b \in [43, 49]$

E. $a \in [18, 22]$ and $b \in [70, 80]$

---

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

$$14 - 12^2 + 9 \div 5 * 10 \div 16$$

A. $[-130.14, -129.96]$

B. $[157.37, 158.98]$

C. $[158.86, 159.16]$

D. $[-129.04, -128.32]$

E. None of the above

---

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

$$\sqrt{\frac{1815}{11}} + 2i^2$$

A. Irrational

B. Nonreal Complex

C. Pure Imaginary

D. Not a Complex Number

E. Rational

---

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

$$10 - 6^2 + 4 \div 8 * 5 \div 18$$

A. $[46.1, 46.2]$

B. $[-26.02, -25.89]$

C. $[46, 46.06]$

D. $[-25.92, -25.83]$

E. None of the above

---

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

$$-\sqrt{\frac{57600}{144}}$$

A. Integer

B. Irrational

C. Whole

D. Not a Real number

E. Rational

---

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

$$\frac{-36 - 77i}{8 + 6i}$$

A. $a \in [-9, -6.5]$ and $b \in [-401, -399.5]$

B. $a \in [-9, -6.5]$ and $b \in [-5, -3]$

C. $a \in [-750.5, -749.5]$ and $b \in [-5, -3]$

D. $a \in [-5, -3.5]$ and $b \in [-14, -12]$

E. $a \in [0.5, 3]$ and $b \in [-9, -7.5]$
