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

$$19 - 11 \div 12 * 17 - (6 * 18)$$

A. $[-51.5, -42.5]$

B. $[122.95, 129.95]$

C. $[-93.05, -87.05]$

D. $[-107.58, -102.58]$

E. None of the above

---

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

$$(2 + 4i)(10 + 5i)$$

A. $a \in [15, 24]$ and $b \in [16, 21]$

B. $a \in [-3, 7]$ and $b \in [50, 51]$

C. $a \in [36, 45]$ and $b \in [27, 34]$

D. $a \in [-3, 7]$ and $b \in [-53, -49]$

E. $a \in [36, 45]$ and $b \in [-33, -25]$

---

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

$$\frac{-22}{16} + \sqrt{126}i$$

A. Not a Complex Number

B. Rational

C. Irrational

D. Nonreal Complex

E. Pure Imaginary

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

$$-\sqrt{\frac{40000}{100}}$$

A. Whole

B. Irrational

C. Rational

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.

$$\frac{9 - 33i}{7 - 6i}$$

A. $a \in [2.5, 4]$ and $b \in [-178.5, -176.5]$

B. $a \in [260.5, 262]$ and $b \in [-3, -1.5]$

C. $a \in [0.5, 2.5]$ and $b \in [4, 7]$

D. $a \in [-2.5, -1]$ and $b \in [-4.5, -2.5]$

E. $a \in [2.5, 4]$ and $b \in [-3, -1.5]$

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

$$2 - 17^2 + 10 \div 4 * 18 \div 19$$

A. $[-285.19, -284.38]$

B. $[-288.43, -285.77]$

C. $[289.87, 291.34]$

D. $[293.29, 293.53]$

E. None of the above

---

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

$$-\sqrt{\frac{1232}{8}} + 7i^2$$

A. Not a Complex Number

B. Nonreal Complex

C. Pure Imaginary

D. Irrational

E. Rational

---

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

$$-\sqrt{\frac{-600}{10}}$$

A. Not a Real number

B. Whole

C. Irrational

D. Rational

E. Integer

---

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

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

A. $a \in [-28, -23]$ and $b \in [91, 95]$

B. $a \in [-28, -23]$ and $b \in [-92, -85]$

C. $a \in [95, 101]$ and $b \in [-15, -3]$

D. $a \in [33, 41]$ and $b \in [60, 61]$

E. $a \in [95, 101]$ and $b \in [4, 10]$

---

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

$$\frac{36 + 22i}{-7 - 8i}$$

A. $a \in [-428.5, -427.5]$ and $b \in [1, 1.5]$

B. $a \in [-2, 0]$ and $b \in [-4, -3.5]$

C. $a \in [-4.5, -2.5]$ and $b \in [1, 1.5]$

D. $a \in [-4.5, -2.5]$ and $b \in [133.5, 135]$

E. $a \in [-6, -4.5]$ and $b \in [-3, -2.5]$
