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

$$-\sqrt{\frac{1848}{12}}$$

A. Irrational

B. Integer

C. Not a Real number

D. Whole

E. Rational

---

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

$$(-8 - 9i)(-10 - 7i)$$

A. $a \in [10, 22]$ and $b \in [143, 147]$

B. $a \in [10, 22]$ and $b \in [-149, -142]$

C. $a \in [143, 146]$ and $b \in [-34, -33]$

D. $a \in [79, 81]$ and $b \in [61, 66]$

E. $a \in [143, 146]$ and $b \in [26, 36]$

---

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

$$\sqrt{\frac{720}{9}} + 9i^2$$

A. Rational

B. Irrational

C. Nonreal Complex

D. Not a Complex Number

E. Pure Imaginary

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

$$\frac{27 + 44i}{8 - 7i}$$

A. $a \in [-92.5, -91.5]$ and $b \in [3.5, 5]$

B. $a \in [4, 5.5]$ and $b \in [0.5, 2]$

C. $a \in [-1.5, 0.5]$ and $b \in [540.5, 541.5]$

D. $a \in [2.5, 4]$ and $b \in [-7, -6]$

E. $a \in [-1.5, 0.5]$ and $b \in [3.5, 5]$

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

$$13 - 12^2 + 20 \div 17 * 19 \div 8$$

A. $[153.3, 158.4]$

B. $[158.3, 161.4]$

C. $[-129.3, -128.1]$

D. $[-133, -130.7]$

E. None of the above

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

$$(10 + 8i)(-3 - 9i)$$

A. $a \in [-105, -100]$ and $b \in [-66, -63]$

B. $a \in [-105, -100]$ and $b \in [63, 70]$

C. $a \in [37, 44]$ and $b \in [114, 117]$

D. $a \in [-30, -26]$ and $b \in [-73, -67]$

E. $a \in [37, 44]$ and $b \in [-119, -112]$

---

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

$$\sqrt{\frac{850}{10}} + 9i^2$$

A. Nonreal Complex

B. Not a Complex Number

C. Irrational

D. Rational

E. Pure Imaginary

---

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

$$-\sqrt{\frac{585}{5}}$$

A. Rational

B. Not a Real number

C. Whole

D. Irrational

E. Integer

---

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

$$6 - 12 \div 4 * 19 - (9 * 7)$$

A. $[67.84, 73.84]$

B. $[-117, -111]$

C. $[-421, -417]$

D. $[-59.16, -52.16]$

E. None of the above

---

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

$$\frac{-72 + 77i}{2 - 3i}$$

A. $a \in [-38, -35.5]$ and $b \in [-27, -24.5]$

B. $a \in [-30, -27]$ and $b \in [-62.5, -60.5]$

C. $a \in [-30, -27]$ and $b \in [-5, -3]$

D. $a \in [6.5, 7]$ and $b \in [28, 29]$

E. $a \in [-376, -374]$ and $b \in [-5, -3]$
