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

$$6 - 18^2 + 10 \div 13 * 7 \div 20$$

A. $[330.25, 330.46]$

B. $[329.72, 330.11]$

C. $[-318.08, -317.95]$

D. $[-317.81, -317.64]$

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.

$$(-6 + 7i)(-2 + 10i)$$

A. $a \in [-61, -54]$ and $b \in [-75.5, -71.7]$

B. $a \in [-61, -54]$ and $b \in [71.7, 76.6]$

C. $a \in [79, 83]$ and $b \in [45.2, 48.6]$

D. $a \in [79, 83]$ and $b \in [-47.3, -44.2]$

E. $a \in [12, 14]$ and $b \in [68.7, 73.3]$

---

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

$$\sqrt{\frac{640}{8}} + \sqrt{77}i$$

A. Irrational

B. Pure Imaginary

C. Rational

D. Nonreal Complex

E. Not a Complex Number

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

$$-\sqrt{\frac{5929}{49}}$$

A. Not a Real number

B. Irrational

C. Rational

D. Whole

E. Integer

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

$$\frac{27 - 77i}{2 + 8i}$$

A. $a \in [-563, -561.5]$ and $b \in [-6, -4]$

B. $a \in [9, 10.5]$ and $b \in [-0.5, 1]$

C. $a \in [-9.5, -7.5]$ and $b \in [-370.5, -369.5]$

D. $a \in [12, 14]$ and $b \in [-10, -9]$

E. $a \in [-9.5, -7.5]$ and $b \in [-6, -4]$

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

$$13 - 2^2 + 7 \div 17 * 16 \div 6$$

A. $[7.73, 9.14]$

B. $[16.66, 17.49]$

C. $[17.06, 18.61]$

D. $[9.09, 10.8]$

E. None of the above

---

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

$$\sqrt{\frac{-1260}{0}}i + \sqrt{234}i$$

A. Pure Imaginary

B. Not a Complex Number

C. Nonreal Complex

D. Irrational

E. Rational

---

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

$$-\sqrt{\frac{924}{11}}$$

A. Not a Real number

B. Integer

C. Rational

D. Irrational

E. Whole

---

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

$$(2 + 3i)(7 - 10i)$$

A. $a \in [6, 18]$ and $b \in [-34, -25]$

B. $a \in [40, 50]$ and $b \in [-5, 0]$

C. $a \in [-17, -14]$ and $b \in [37, 42]$

D. $a \in [-17, -14]$ and $b \in [-45, -38]$

E. $a \in [40, 50]$ and $b \in [1, 3]$

---

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

$$\frac{-54 + 44i}{-8 - 7i}$$

A. $a \in [6.7, 7]$ and $b \in [-6.34, -6.04]$

B. $a \in [0.25, 1.35]$ and $b \in [-730.31, -729.96]$

C. $a \in [123.15, 124.35]$ and $b \in [-6.62, -6.4]$

D. $a \in [6.35, 6.7]$ and $b \in [0.12, 0.48]$

E. $a \in [0.25, 1.35]$ and $b \in [-6.62, -6.4]$
