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

$$16 - 1 \div 14 * 10 - (6 * 12)$$

A. $[111.34, 113.19]$

B. $[-56.77, -56.66]$

C. $[86.76, 88.44]$

D. $[-56.05, -55.02]$

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.

$$(-2 + 8i)(-3 + 7i)$$

A. $a \in [-53, -42]$ and $b \in [-42, -37]$

B. $a \in [58, 67]$ and $b \in [10, 13]$

C. $a \in [58, 67]$ and $b \in [-10, -9]$

D. $a \in [5, 7]$ and $b \in [55, 59]$

E. $a \in [-53, -42]$ and $b \in [36, 40]$

---

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

$$\frac{18 + 44i}{-3 - 5i}$$

A. $a \in [-6.5, -5]$ and $b \in [-10.5, -8]$

B. $a \in [4, 6]$ and $b \in [-8.5, -5.5]$

C. $a \in [-8.5, -7.5]$ and $b \in [-2, -0.5]$

D. $a \in [-8.5, -7.5]$ and $b \in [-42.5, -40.5]$

E. $a \in [-274.5, -273]$ and $b \in [-2, -0.5]$

---

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

$$\frac{-16}{-4} + \sqrt{-49}i$$

A. Irrational

B. Nonreal Complex

C. Rational

D. Not a Complex Number

E. Pure Imaginary

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

$$(3 - 4i)(9 + 8i)$$

A. $a \in [-8, -4]$ and $b \in [-62, -58]$

B. $a \in [-8, -4]$ and $b \in [57, 65]$

C. $a \in [58, 60]$ and $b \in [-13, -9]$

D. $a \in [25, 29]$ and $b \in [-33, -31]$

E. $a \in [58, 60]$ and $b \in [12, 15]$

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

$$\frac{27 - 44i}{1 - 8i}$$

A. $a \in [-6, -4]$ and $b \in [-5, -3.5]$

B. $a \in [26, 28]$ and $b \in [3, 7]$

C. $a \in [5, 6]$ and $b \in [171, 172.5]$

D. $a \in [378.5, 380]$ and $b \in [2, 3.5]$

E. $a \in [5, 6]$ and $b \in [2, 3.5]$

---

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

$$17 - 13 \div 6 * 5 - (8 * 9)$$

A. $[86.57, 89.57]$

B. $[-20.5, -9.5]$

C. $[-56.43, -54.43]$

D. $[-72.83, -61.83]$

E. None of the above

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

$$-\sqrt{\frac{9}{0}}$$

A. Irrational

B. Integer

C. Rational

D. Whole

E. Not a Real number

---

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

$$-\sqrt{\frac{1716}{13}}$$

A. Whole

B. Integer

C. Rational

D. Not a Real number

E. Irrational

---

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

$$\frac{\sqrt{91}}{13} + 8i^2$$

A. Not a Complex Number

B. Irrational

C. Rational

D. Nonreal Complex

E. Pure Imaginary
