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

$$\frac{2}{-17} + 4i^2$$

   A. Pure Imaginary

   B. Nonreal Complex

   C. Rational

   D. Irrational

   E. Not a Complex Number

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

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

   A. $a \in [0.5, 2.5]$ and $b \in [-9, -8]$

   B. $a \in [-7, -6.5]$ and $b \in [-166.5, -165.5]$

   C. $a \in [-4, -3]$ and $b \in [-15.5, -13.5]$

   D. $a \in [-222.5, -221]$ and $b \in [-5, -4.5]$

   E. $a \in [-7, -6.5]$ and $b \in [-5, -4.5]$

---

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

$$(8 - 7i)(6 + 5i)$$

   A. $a \in [47, 52]$ and $b \in [-36, -33.4]$

   B. $a \in [82, 86]$ and $b \in [-2.2, -1.4]$

   C. $a \in [82, 86]$ and $b \in [0.2, 4.5]$

   D. $a \in [12, 16]$ and $b \in [-84.2, -80.6]$

E. $a \in [12, 16]$ and $b \in [80.5, 84.8]$

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

$$\sqrt{\frac{-2618}{0}}i + \sqrt{198}i$$

A. Pure Imaginary

B. Not a Complex Number

C. Rational

D. Nonreal Complex

E. Irrational

---

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

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

A. $a \in [11, 16]$ and $b \in [20, 29]$

B. $a \in [-14, -8]$ and $b \in [-68, -60]$

C. $a \in [36, 41]$ and $b \in [-52, -44]$

D. $a \in [-14, -8]$ and $b \in [62, 65]$

E. $a \in [36, 41]$ and $b \in [50, 52]$

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

$$\frac{72 + 11i}{-4 - 3i}$$

A. $a \in [-14, -11.5]$ and $b \in [6.5, 8]$

B. $a \in [-14, -11.5]$ and $b \in [171, 172.5]$

C. $a \in [-10.5, -9]$ and $b \in [-12, -10]$

D. $a \in [-18.5, -17]$ and $b \in [-4.5, -2.5]$

E. $a \in [-322, -320.5]$ and $b \in [6.5, 8]$

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

$$4 - 8^2 + 13 \div 15 * 3 \div 11$$

A. $[67.88, 68.05]$

B. $[-59.91, -59.61]$

C. $[-60.43, -59.89]$

D. $[68.2, 68.52]$

E. None of the above

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

$$\sqrt{\frac{400}{441}}$$

A. Not a Real number

B. Irrational

C. Whole

D. Rational

E. Integer

---

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

$$7 - 10 \div 19 * 11 - (4 * 9)$$

A. $[-26, -20.6]$

B. $[41.2, 43.1]$

C. $[-31.2, -28.4]$

D. $[-39.6, -33.1]$

E. None of the above

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

$$-\sqrt{\frac{1001}{7}}$$

A. Whole

B. Irrational

C. Not a Real number

D. Rational

E. Integer