

**Bergen County Math League
NO Calculators Permitted**

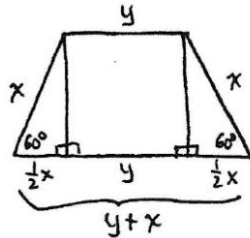


Contest #2

2025-2026

Answers/Solutions

2-1. **Answer:** 60°



2-2. **Answer:** 1

The expression = $\frac{(-3)^{84}(-3+84)}{(-3)^{84}(-3)^4} = 1$

2-3. **Answer:** 27

There are 9 ways for each of the three essentially different ways this can happen. These three ways are: $*22$, $2*2$, and $22*$, where the $*$ represents the missing digit. Of course, the missing digit cannot be 2. Thus, the total number of ways is 27.

2-4. **Answer:** 3

$$x = \frac{3}{4}x + \frac{3}{4} \Leftrightarrow x = 3.$$

2-5. **Answer:** (21,15)

Work backwards:

A	B	
18	18	
6	30	
21	15	

↓ ↓ ↓ So, (21,15).

2-6. **Answer:** $-3, -1, 0, 3, 4$

$$x + 3 \neq 0 \Rightarrow x \neq -3$$

$$\frac{3}{x} \text{ is defined } \Rightarrow x \neq 0$$

$$x - 2 - \frac{3}{x} \neq 0 \Rightarrow x \neq -1, 3$$

$$\text{Also, } x - 4 \neq 0 \text{ (otherwise, } \frac{x-1}{x+3} \div 0) \Rightarrow x \neq 4$$