

Calculus Region Bowl Answers
FAMAT State 2008

Round 1

1. $\frac{1}{e}$
2. $\frac{1}{2}$
3. $\frac{1}{4} \ln \frac{1}{3}$ (also accept $-\frac{1}{4} \ln 3$)
4. 0

Round 2

1. 352
2. 4
3. $\frac{17}{2}$
4. 264

Round 3

1. $\sqrt[3]{\pi}$
2. $\frac{3\pi\sqrt{5}}{5}$
3. $8 - 3\ln(3)$
4. $\frac{58}{35}$

Round 4

1. -2
2. -3
3. -6
4. $-\frac{7}{2}$

Round 5

1. $\frac{4\pi}{3}$
2. $\frac{4\pi}{3}$
3. $\frac{(4 - 2\sqrt{3})\pi}{3}$
4. $\frac{2\pi\sqrt{3}}{3}$

Round 6

1. 108
2. $2\sqrt{3}$
3. $32\sqrt{3}$

4. $16\sqrt{3}$

Round 7

1. $\frac{\ln(2)}{1 - \ln(2)}$
2. 2008^{-2008}
3. $\frac{5}{12}$
4. $-\frac{1}{2008!}$

Round 8

1. $y = \frac{x}{4}$
2. 2008
3. 4
4. $\frac{1}{2}$

Round 9

1. $\frac{1+e}{1-e}$
2. 30
3. $\sqrt{3}$
4. 1

Round 10

1. 8
2. $\frac{1}{150}$
3. 12.003
4. $12\sqrt{3} - 16$