

THE UNIVERSITY INTERSCHOLASTIC LEAGUE

TIE BREAKER

# 203

1.  $\frac{(3.06 \times \pi^2 \times 0.00917)^2 \times 2760}{\sqrt[3]{44.8 \times 3.97} \times \sqrt{0.296 \times 0.0335}}$  ----- equals \_\_\_\_\_

2.  $\left[ \frac{0.726 \times 41.6}{3.98 \times 0.617} \right]^2 \times \sqrt{\frac{0.0716 \times 0.432}{\sqrt{2.88 \times 38,600}}}$  ----- equals \_\_\_\_\_

3.  $\sqrt[3]{\frac{414}{0.819}} \times \left[ \frac{\pi \times 0.0224}{3.68 \times 354} \right]^3 \times \frac{23 \times 96}{41 \times 75}$  ----- equals \_\_\_\_\_

4.  $\frac{\sqrt{3.29 \times \sqrt{0.661 \times 4.52 \times 0.00817}}}{(\pi^3 \times 9.66)^2 \times (0.227)^3 \times 0.00739}$  ----- equals \_\_\_\_\_

5.  $\frac{(3.65 \times 1.77)^2}{\frac{73 \times 21}{66 \times 45} \times \left[ \frac{\pi}{5} \right]^3} \times \sqrt{\frac{0.456 \times 0.332}{\sqrt{\frac{3.27 \times 81.5}{0.449 \times 0.366}}}}$  ----- equals \_\_\_\_\_

6.  $\sqrt{\frac{\sqrt{\frac{774}{0.862}}}{(2.69)^3} \times \frac{\left[ \frac{5}{7} \right]^3 \times \left[ \frac{0.615 \times 39,700}{0.0514 \times 0.882} \right]^2}{3.82 \times 0.994 \times 0.0726}}$  ----- equals \_\_\_\_\_

7.  $\frac{\left[ (3.25 \times 0.000661)^2 \times (0.917)^3 \times \sqrt[3]{\pi} \right]^2}{\left[ \frac{666 \times 49.7}{3.88 \times 505} \right]^3 \times \frac{0.816 \times 25 \times 36}{7.48 \times \pi \times 427}}$  ----- equals \_\_\_\_\_

8.  $\frac{\left[ \frac{\left[ \frac{805 \times 726}{394 \times 665} \right]^2}{0.667 \times 0.291} \right]^2}{0.301 \times 0.424} \times \frac{\frac{\pi^3}{36} \times \sqrt{\frac{0.00619}{32 \times 54.7}}}{\frac{0.00261 \times 0.0581}{39 \times 75.2 \times 1.55}}$  ----- equals \_\_\_\_\_

9.  $\frac{\left[ \frac{379,000,000}{8690 \times 0.0615} \right]^2}{(0.434 \times 6.27)^3} \times \sqrt{\frac{\sqrt{\frac{27}{64} \times \sqrt{\frac{264}{0.718}}}}{0.537 \times 0.00266}}$  ----- equals \_\_\_\_\_

$$10. \frac{\left[\frac{\pi}{6}\right]^3 \times \left[\frac{17}{32}\right]^2 \times \sqrt{\frac{23}{617}} \times \sqrt[3]{\frac{4.32}{0.00619}}}{\sqrt{\sqrt{0.0427 \times 6.37 \times 0.297 \times 0.0506}}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$11. \frac{\left[(\pi \times 33)^2 \times 29.6 \times 0.000000391\right]^2}{\left[\frac{0.0716 \times 48}{5280 \times 12}\right]^3 \times \frac{3.81 \times 31 \times 82}{\sqrt{61,700 \times 12,100}}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$12. \sqrt{\frac{\sqrt[3]{0.0462 \times 3.29}}{\sqrt{\frac{0.927 \times 0.436}{0.0617 \times 0.0377}}}} \times \left[\frac{74,300,000}{867 \times 923}\right]^2 \text{ ----- equals } \underline{\hspace{2cm}}$$

$$13. \frac{\frac{\pi^3}{77} \times \left[\frac{42 \times 0.06}{0.0000224}\right]^2 \times \sqrt{\frac{0.000272}{2.14 \times 12.6}}}{0.428 \times 0.863 \times 0.527 \times 1.4 \times 5.62} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$14. \frac{\left[\frac{6.25 \times 5.24 \times 2.08 \times 3.76}{4.26 \times 3.97 \times 8.84 \times 2.76}\right]^2}{\sqrt{\frac{0.000261}{0.49 \times 0.78}} \times \frac{0.271 \times 82 \times 466}{3.75 \times 0.000868}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$15. \sqrt{\frac{\sqrt{\frac{0.465}{0.0392}}}{\sqrt[3]{0.0226}}} \times \frac{\left[\frac{4.29 \times 3.67}{2.88 \times 5.08}\right]^3 \times \frac{0.662}{0.549}}{0.268 \times 4.39 \times 1.78 \times 66} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$16. \frac{\sqrt{\sqrt{0.937 \times 4.26} \times \sqrt[3]{0.0867 \times 0.527}}}{\left[\frac{4.69}{3.77}\right]^3 \times \left[\frac{45 \times 967}{321 \times 27}\right]^2 \times \frac{0.0476}{27 \times 8}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$17. \frac{\left[\frac{4.68 \times 0.0495}{0.817 \times 0.224}\right]^2 \times \frac{\left[\frac{\pi^2}{39}\right]^3 \times \frac{0.397}{0.464}}{\sqrt{\frac{0.667 \times 0.0392}{\sqrt{0.0403 \times 0.929}}}}}{\left[\frac{697 \times 325}{468 \times 113}\right]^3} \text{ ----- equals } \underline{\hspace{2cm}}$$

THE UNIVERSITY INTERSCHOLASTIC LEAGUE SLIDE RULE ANSWER KEY #203 TIE BREAKER

1.	3.78	x	10 <sup>2</sup>	(3.76	x	10 <sup>2</sup>	to	3.80	x	10 <sup>2</sup> )
2.	1.46			(1.44			to	1.48)		
3.	9.02	x	10 <sup>-13</sup>	(9.00	x	10 <sup>-13</sup>	to	9.04	x	10 <sup>-13</sup> )
4.	2.78	x	10 <sup>-2</sup>	(2.76	x	10 <sup>-2</sup>	to	2.80	x	10 <sup>-2</sup> )
5.	2.00	x	10 <sup>1</sup>	(1.98	x	10 <sup>1</sup>	to	2.02	x	10 <sup>1</sup> )
6.	4.76	x	10 <sup>11</sup>	(4.74	x	10 <sup>11</sup>	to	4.78	x	10 <sup>11</sup> )
7.	7.70	x	10 <sup>-14</sup>	(7.68	x	10 <sup>-14</sup>	to	7.72	x	10 <sup>-14</sup> )
8.	5.20	x	10 <sup>5</sup>	(5.18	x	10 <sup>5</sup>	to	5.22	x	10 <sup>5</sup> )
9.	5.53	x	10 <sup>10</sup>	(5.51	x	10 <sup>10</sup>	to	5.55	x	10 <sup>10</sup> )
10.	2.74	x	10 <sup>-1</sup>	(2.72	x	10 <sup>-1</sup>	to	2.76	x	10 <sup>-1</sup> )
11.	2.74	x	10 <sup>11</sup>	(2.72	x	10 <sup>11</sup>	to	2.76	x	10 <sup>11</sup> )
12.	1.04	x	10 <sup>-5</sup>	(1.02	x	10 <sup>-5</sup>	to	1.06	x	10 <sup>-5</sup> )
13.	1.06	x	10 <sup>7</sup>	(1.04	x	10 <sup>7</sup>	to	1.08	x	10 <sup>7</sup> )
14.	4.63	x	10 <sup>-6</sup>	(4.61	x	10 <sup>-6</sup>	to	4.65	x	10 <sup>-6</sup> )
15.	3.79	x	10 <sup>-2</sup>	(3.77	x	10 <sup>-2</sup>	to	3.81	x	10 <sup>-2</sup> )
16.	7.90	x	10 <sup>1</sup>	(7.88	x	10 <sup>1</sup>	to	7.92	x	10 <sup>1</sup> )
17.	9.79	x	10 <sup>-6</sup>	(9.77	x	10 <sup>-6</sup>	to	9.81	x	10 <sup>-6</sup> )

#203 TIE BREAKER Note: If any error is found in this key, grade by correct answer. The State Office will appreciate a report of any error found.