

THE UNIVERSITY INTERSCHOLASTIC LEAGUE

TIE BREAKER

#197

1. $\sqrt{\frac{\sqrt{0.419 \times 0.0676}}{0.00236 \times 0.453}} \times \left[\frac{3.61 \times \pi \times 463}{0.118 \times 32,300} \right]^2$ ----- equals _____

2. $\left[\frac{\pi^3}{24} \right]^2 \times \frac{\sqrt{0.445 \times 3.24 \times (1.06 \times 4.55)^3}}{3.05 \times (0.661)^2 \times 15.2 \times 0.000461}$ ----- equals _____

3. $\frac{\sqrt{4.77 \times 6.22} \times 0.616 \times \sqrt[3]{4.25 \times 9.21}}{0.00000391 \times 62.4 \times 5280 \times 12 \times 60}$ ----- equals _____

4. $\sqrt{\frac{(0.403 \times 2.66)^3}{0.000392 \times 0.0461}} \times \left[\frac{\sqrt[3]{\pi} \times 2.63 \times 486}{(2.77 \times 1.45)^3 \times 12} \right]^2$ equals _____

5. $\frac{\left[\frac{2.68 \times 0.0415}{0.279 \times 0.463} \right]^2 \times \left[\frac{\pi}{8} \right]^3 \times \sqrt{\sqrt{\frac{2.43 \times \pi}{4.72 \times 3.66}}}}{3.74 \times 2.68 \times 17 \times 1.45 \times 0.0000494}$ - equals _____

6. $\sqrt{\frac{\sqrt[3]{2.83}}{\sqrt{\frac{4.82}{0.0613}}}} \times \left[\frac{24 \times 61}{\left[\frac{396}{477} \right]^2} \right]^2 \times \left[\frac{0.00726}{\frac{16 \times 23}{42 \times 19}} \right]^3$ ----- equals _____

7. $\frac{\sqrt{\left[\frac{9.27}{21.6} \right]^3} \times \sqrt[3]{\frac{\pi}{137}} \times \frac{0.683 \times 4.29}{8.72 \times 0.932}}{\left[\frac{0.492 \times 0.00361}{2.15 \times 2.7 \times 3.4} \right]^2 \times \frac{716 \times 509}{0.0000296}}$ ----- equals _____

8. $\sqrt{\frac{\sqrt{\frac{0.736 \times 0.415}{0.0216 \times 0.0443}}}{\sqrt[3]{0.000229 \times 0.0486}}} \times \left[\frac{\left[\frac{3}{7} \right]^3 \times \frac{0.329}{0.446}}{0.0792 \times 894} \right]^2$ ---- equals _____

9. $\left[\frac{\frac{276}{433}}{\frac{876}{542}} \right]^2 \times \frac{\sqrt[3]{\frac{3.69}{0.427}} \times \frac{0.273 \times 0.408}{0.525 \times 0.866}}{\sqrt{\frac{0.00736 \times 0.000208}{0.479 \times 161 \times 0.0276}}}$ ----- equals _____

$$10. \frac{(0.416 \times 9.28)^3 \times (0.514 \times 0.707)^2}{\sqrt{\sqrt{\frac{0.217 \times 368}{42,700 \times 0.115}} \times \frac{2.75}{41.6}} \times \sqrt[3]{\frac{0.00396}{0.000279}}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$11. \left[\frac{(2.78 \times 8.32)^3}{\left[\frac{4.78 \times 3.29}{11.4 \times 10.8} \right]^2} \right]^2 \times \frac{(0.396 \times 0.442)^2}{\sqrt[3]{\frac{\pi}{317}} \times \left[\frac{\pi^2 \times 7}{0.0791} \right]^3} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$12. \frac{\left[\frac{(0.0197 \times 0.0332)^2}{0.479 \times 0.00000617} \right]^2 \times \left[\frac{0.429}{0.606} \right]^3}{\frac{0.455 \times 279 \times 362}{1.78 \times 48.2 \times 77.3} \times \sqrt{\frac{0.23 \times 41}{0.276 \times 313}}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$13. \left[\frac{(4.79 \times 77)^2}{\left[\frac{2.16 \times 34}{28 \times 5.16} \right]^3} \right]^2 \times \left[\frac{4.66}{\frac{3.82}{2.16}} \right]^3 \times \sqrt{\frac{17}{\frac{3.67}{0.0492}}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$14. \frac{\sqrt{(2.96 \times 0.115 \times 2.83)^3} \times \sqrt{0.376 \times 4.75}}{\left[\left[\frac{0.616}{0.524} \right]^3 \times \left[\frac{7.35}{6.48} \right]^2 \times \frac{443}{679} \right]^2 \times \frac{0.892}{0.663}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$15. \frac{\left[\frac{788 \times 346}{208 \times 516} \right]^2}{\frac{\sqrt[3]{0.0529}}{(0.0627)^3}} \times \frac{\sqrt{\sqrt{\frac{3.26 \times 152}{0.481 \times 0.332}}}}{\left[\frac{\pi}{3} \right]^2 \times \frac{26 \times 43}{0.000717}} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$16. \frac{\sqrt{\frac{3.96}{0.0425}} \times \frac{0.000338 \times 0.0496}{372 \times 0.156 \times 2630}}{\left[(4.63 \times 0.0817)^2 \times (3.66)^3 \times 0.12 \right]^2} \text{ ----- equals } \underline{\hspace{2cm}}$$

$$17. \left[\frac{0.0672}{\left[\frac{2.19}{4.37} \right]^2} \right]^2 \times \sqrt{\frac{9.16}{\sqrt{\frac{626}{0.413}}}} \times \left[\frac{96 \times 37}{\frac{44 \times 58}{26 \times 47}} \right]^3 \text{ ----- equals } \underline{\hspace{2cm}}$$

| | | | | | | | | | | |
|-----|------|---|------------|-------|---|------------|----|------|---|--------------|
| 1. | 1.21 | x | 10^1 | (1.19 | x | 10^1 | to | 1.23 | x | 10^1) |
| 2. | 2.27 | x | 10^3 | (2.25 | x | 10^3 | to | 2.29 | x | 10^3) |
| 3. | 1.23 | x | 10^{-2} | (1.21 | x | 10^{-2} | to | 1.25 | x | 10^{-2}) |
| 4. | 1.51 | x | 10^3 | (1.49 | x | 10^3 | to | 1.53 | x | 10^3) |
| 5. | 3.00 | | | (2.98 | | | to | 3.02 | |) |
| 6. | 7.03 | | | (7.01 | | | to | 7.05 | |) |
| 7. | 5.42 | x | 10^{-4} | (5.40 | x | 10^{-4} | to | 5.44 | x | 10^{-4}) |
| 8. | 1.90 | x | 10^{-5} | (1.88 | x | 10^{-5} | to | 1.92 | x | 10^{-5}) |
| 9. | 9.22 | x | 10^1 | (9.20 | x | 10^1 | to | 9.24 | x | 10^1) |
| 10. | 3.42 | x | 10^1 | (3.40 | x | 10^1 | to | 3.44 | x | 10^1) |
| 11. | 1.23 | x | 10^2 | (1.21 | x | 10^2 | to | 1.25 | x | 10^2) |
| 12. | 3.25 | x | 10^{-3} | (3.23 | x | 10^{-3} | to | 3.27 | x | 10^{-3}) |
| 13. | 9.37 | x | 10^{12} | (9.35 | x | 10^{12} | to | 9.39 | x | 10^{12}) |
| 14. | 4.37 | x | 10^{-1} | (4.35 | x | 10^{-1} | to | 4.39 | x | 10^{-1}) |
| 15. | 7.84 | x | 10^{-11} | (7.82 | x | 10^{-11} | to | 7.86 | x | 10^{-11}) |
| 16. | 1.50 | x | 10^{-9} | (1.48 | x | 10^{-9} | to | 1.52 | x | 10^{-9}) |
| 17. | 1.71 | x | 10^8 | (1.69 | x | 10^8 | to | 1.73 | x | 10^8) |

NOTE: If any error is found in this key, grade by Correct answer. The State Office will appreciate a report of any error found.