

Calculator Team 2023- Team Member #1

Place your answer on the appropriate blank of the answer sheet. Give an exact answer whenever possible. Otherwise, round to 3 decimal places.

1. Let $f(x) = x^3 - 5x^2 - x + 1$. Find $f(-1.75)$.
2. What is the remainder of 375900 divided by 27?
3. Compute $\left(\frac{53.253}{13.371} - 0.627\right) \times 0.193$.
4. Compute $1.82 \times \left[2.31(5.42 + 0.87)^2 + \frac{1.72}{5.18}\right]$.
5. Compute $\frac{10!}{6!4!} \times \frac{3!4!}{7!} \times \frac{2!2!}{4!}$.
6. Compute $\log_5(15625) \times \log_5(30)$.
7. Compute $\ln(e^2) \times e^{1.43}$.
8. Compute $\frac{1}{3} \left\{ (1.23 - 2.915)^2 + (5.24 - 2.915)^2 + (3.32 - 2.915)^2 + (1.87 - 2.915)^2 \right\}$.
9. Find the sum $\log_{10}(1) + \log_{10}(2^2) + \log_{10}(3^3) + \log_{10}(4^4) + \log_{10}(5^5)$.
10. Find the sum $1 - \frac{1}{2!} + \frac{1}{3!} - \frac{1}{4!} + \frac{1}{5!}$.
11. Compute $\sqrt{(\sqrt{12.4} - 2\sqrt{2.1})(\sqrt{12.4} + \sqrt{8.4})}$.
12. Compute $(1.27 + 2.73)(1.27^2 + 2(1.27)(2.73) + 2.73^2)$.
13. Compute $0.3 + 0.3(0.7) + 0.3(0.7)^2 + 0.3(0.7)^3 + 0.3(0.7)^4 + 0.3(0.7)^5$.
14. Compute $\frac{e^{-1.345}(1.345)^0}{0!} + \frac{e^{-1.345}(1.345)^1}{1!} + \frac{e^{-1.345}(1.345)^2}{2!}$.
15. Compute $\sqrt[5]{67.48}$.

Calculator Team 2023- Team Member #2

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16. Let $f(x) = x^3 + 2x^2 - x + 1$. Find $f(-1.83)$.
17. What is the remainder of 353790 divided by 37?
18. Compute $\left(\frac{83.517}{37.684} - 0.674\right) \times 0.186$.
19. Compute $2.71 \times \left[3.45(4.62 - 3.52)^3 + \frac{2.856}{1.243}\right]$.
20. Compute $\frac{20!}{7!13!} \times \frac{5!5!}{10!} \times \frac{2!1!}{3!}$.
21. Compute $\log_{10}(1000) \times \log_{10}(25)$.
22. Compute $e^{2.98} \times e^{\ln 0.125} \times \ln(e)$.
23. Compute $\frac{1}{3} \left\{ (0.23 - 2.915)^2 + (6.24 - 2.915)^2 + (4.32 - 2.915)^2 + (0.87 - 2.915)^2 \right\}$.
24. Find the sum $\log_{10}(2^5) + \log_{10}(3^4) + \log_{10}(4^3) + \log_{10}(5^2)$.
25. Find the sum $1 + \frac{e}{1!} + \frac{e^2}{2!} + \frac{e^3}{3!}$.
26. Compute $\sqrt[5]{33.05}$.
27. Compute $e^{-1.245} (1.245)^0 + e^{-1.245} (1.245)^1 + e^{-1.245} (1.245)^2$.
28. Compute $\sqrt{(2\sqrt{1.8})(2.8 + \sqrt{7.2})}$.
29. Compute $(3.82 + 2.18) \left(3.82^2 + (3.82)(2.18) + 2.18^2 \right)$.
30. Compute $0.2 + 0.2(0.8) + 0.2(0.8)^2 + 0.2(0.8)^3 + 0.2(0.8)^4 + 0.2(0.8)^5$.

Calculator Team 2023- Team Member #3

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31. Let $f(x) = 3x^3 - x^2 + 3x + 2$. Find $f(-1.53)$.
32. What is the remainder of 3719000 divided by 27?
33. Compute $\left(\frac{15.372}{8.194} - 0.734\right) \times 0.376$.
34. Compute $3.18 \times \left[2.31(2.43 - 3.37)^2 + 0.603\right]^2$.
35. Compute $\frac{3!2!}{5!} \times \frac{8!}{5!3!} \times \frac{2!2!}{4!}$.
36. Compute $\log_3(9.4) \times \log_3(6.8) \times \log_3(81)$.
37. Compute $\ln(e^{7.23}) \times e^{\ln(0.125)} \times \ln(e)$.
38. Compute $\frac{1}{3} \left\{ (0.73 - 2.915)^2 + (5.74 - 2.915)^2 + (3.82 - 2.915)^2 + (1.37 - 2.915)^2 \right\}$.
39. Compute $\{\ln(3) + \ln(6) + \ln(9)\} - \{\ln(1) + \ln(2) + \ln(3)\}$.
40. Find the sum $\left[1 + 3 + 3^2 + 3^3 + 3^4 + 3^5 + 3^6 + 3^7 + 3^8 + 3^9\right] \div \left[3^5 + 1\right]$.
41. Compute $\sqrt[3]{20.81}$.
42. Compute $e^{-1.234} (1.234)^1 + e^{-1.234} (1.234)^2 + e^{-1.234} (1.234)^3 + e^{-1.234} (1.234)^4$.
43. Compute $\sqrt{(2.5 + 2\sqrt{4.1})(5.1 - \sqrt{16.4})}$.
44. Compute $(1.3 + 3.7)(1.3^2 + (1.3)(3.7) + 3.7^2)$.
45. Compute $0.4 + 0.4(0.6) + 0.4(0.6)^2 + 0.4(0.6)^3 + 0.4(0.6)^4 + 0.4(0.6)^5$.

Calculator Team 2023- Team Member #4

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46. Let $f(x) = 5x^3 - 3x^2 + x + 3$. Find $f(-1.23)$.
47. What is the remainder of 139250 divided by 19?
48. Compute $\left(\frac{5.752}{1.947} - 1.347\right) \times 0.375$.
49. Compute $3.45 \times \sqrt{\left[2.97(5.32 + 4.18)^2 + 0.95\right]}$.
50. Compute $\frac{15!}{3!12!} \times \frac{1!4!}{5!} \times \frac{2!3!}{4!}$.
51. Compute $\log_2(8.4) \times \log_2(16) \times \log_2(0.5)$.
52. Compute $e^{-\ln(1.35)} \times e^{1.25} \times \ln(5e)$.
53. Compute $\frac{1}{4} \left\{ (0.80 - 2.715)^2 + (5.27 - 2.715)^2 + (3.35 - 2.715)^2 + (1.44 - 2.715)^2 \right\}$.
54. Compute $\left\{ \log_3(3) \times \log_3(9) \times \log_3(243) \right\} - \left\{ \log_2(2) \times \log_2(16) \right\}$.
55. Find the sum $1 + 1.7^2 + 1.7^4 + 1.7^6 + 1.7^8 + 1.7^{10} + 1.7^{12}$.
56. Compute $\sqrt[3]{59.26}$.
57. Compute $e^{-1.234} (1.234)^0 + e^{-1.234} (1.234)^1 + e^{-1.234} (1.234)^2 + e^{-1.234} (1.234)^3$.
58. Compute $\sqrt{(3.6 - \sqrt{8.4})(3.6 + 3\sqrt{2.1})}$.
59. Compute $(5.2 + 2.1) \left(5.2^2 + (5.2)(2.1) + 2.1^2 \right)$.
60. Compute $0.3 + 0.3(0.7) + 0.3(0.7)^2 + 0.3(0.7)^3 + 0.3(0.7)^4 + 0.3(0.7)^5$.