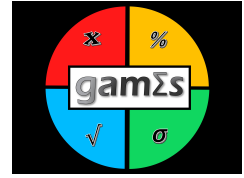


# GAMES Practice Problem Solutions – Fractal Powers, Systems of Equations and Introductory Functions



- $x = 81$
  - $x = 1/4$
  - $x = 14$
  - $x = 24$
- Simplify the following expressions.
  - $2x^a y^{2b} z^{4c}$
  - $(x + 1)^{7/10}$
  - $\frac{8x^{2/3} y^{1/4} z^{-1/2}}{-2x^{1/3} y^{5/2} z^{1/2}} = \frac{-4x^{1/3}}{y^{9/4} z}$
  - $a^{1/5}$
  - $y^{163/60} \approx y^{2.72}$
  - $\frac{(3a)^2 (2^{-1} a^2) a^3}{1} = \frac{9a^2 (a^2) a^3}{2} = \frac{9a^7}{2}$
- $x = 1/2, y = 3/2$
  - $x = -3, y = 1$
  - $x = 3, y = 2$
  - $x = 1/2, y = 3/4$
- 1333 hours and 20 minutes
- Write down the equation:  $32Q^{3/2} = 4Q^3$  and solve for Q.  $Q = 4$
- 2,800 megabytes or approximately 2.8 gigabytes
- Create two equations.  $C_A - C_B = 1500$ ,  $0.07C_A + 0.035C_B = 551.25$  and solve  $C_A = 5750, C_B = 4250$
- Let A,B Be the efficiency of each worker, T his time in minutes, and the number of tasks to complete is 1. We can write an equation:  $(A + B)t = 1$  Every minute, worker A completes  $1/14$  of the task, and both workers take 6 minutes to finish:  $(1/14 + B)6 = 1$ . solve for B, B is 5.15 minutes or 5 minutes, 15 seconds.
- Let the time at facility A and B be  $t_1, t_2$ , respectively.  $t_1 = 20, t_2 = 25$
- Two equations could be  $A+B = 25$  and  $B=A+1$ . The answer is  $A=12$  and  $B=13$
- 45 and 21
- 240 days
- 1808.64 square centimeters
  - 113.04 square centimeters

14. Meals are \$50 and drinks are \$70
15.  $0.5E = H$ ,  $40H + 120E = 840,000$ , solving:  $E = 6,000$ ,  $H = 3,000$
16. \$30,000 in the first account, and \$70,000 in the second account.



This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) <https://creativecommons.org/licenses/by-nc-nd/4.0/> Unless otherwise noted, all content in this video was created by Catherine Pfaff, Sumon Majumdar, and Robert J. McKeown. You are free to copy and share this material in any format, but you must give appropriate credit to the authors. This project is made possible with funding by the Government of Ontario and through eCampusOntario's support of the Virtual Learning Strategy. To learn more about the Virtual Learning Strategy visit: <https://vls.ecampusontario.ca/>.

