

UNIT 3 :
EXPONENTIAL, LOGISTIC, &
LOGARITHMIC FUNCTIONS

EXPONENTIAL & LOGARITHMIC EQUATIONS WITH QR CODES ACTIVITY

A Review Activity
for Pre-Calculus

Jean Adams
© 2014 Flamingo Math.com
All rights reserved



FLAMINGO MATH

Thanks for downloading my product!

www.teacherspayteachers.com/Store/Jean-Adams

EXPONENTIAL & LOGARITHMIC EQUATIONS WITH QR CODES ACTIVITY

This activity is designed to help your Pre-Calculus students solve for exponential and logarithmic equations at the end of the unit on *Exponential, Logistic, & Logarithmic Functions*. There are 32 task cards in the activity. The cards are sorted into sets with matching mathematicians on the back of the card set.

Copy the task cards on card stock and laminate for durability. Students are provided a QR-Code to check their answers for each equation. Answers are given in both exact and decimal approximations.

A second set is also included without the QR Codes. You could use these in a SUM UP activity. Students work in groups to solve their equations and add the answers. Then, they check with you for the SUM. If their sum is accurate they move to the next set. If not accurate, they must find their error.

Mathematicians are Euclid, Archimedes, Ptolemy, Fibonacci, Hypatia, Fermat, Agnesi, Napier

CREDITS:

Background: Moo and Puppy <https://www.etsy.com/shop/mooandpuppy>

Frame: Enlightened Elephant

<http://www.teacherspayteachers.com/Store/The-Enlightened-Elephant>

Fonts: Luckiest Guy, Carriesfont, Annoying Kettle, Arial, Rowdy Funky



ANSWER KEY

1. $x = 5/2$	2. $x = 2$
3. $x = \frac{e^2}{4}$ or 1.847	4. $x = 20$
5. $x = \ln 5$ or 1.609	6. $x = 4$
7. $x = -\frac{4}{3}$ or -1.333	8. $x = -7$
9. $x = 4$	10. $x = 3$
11. $x = \frac{5}{2}$ or 2.5	12. $x = \frac{9}{2}$ or 4.5
13. $x = \sqrt{10}$ or 3.162	14. $x = e$ or 2.718
15. $x = -\frac{1}{3}$ or -0.333	16. $x = 5$
17. $x = 12$	18. $x = 4000$
19. $x = -\frac{1}{2}$ or -0.5	20. $x = \frac{e^3+2}{3}$ or 7.362
21. $x = 334$	22. $x = -\frac{1}{2}$ or -0.5
23. $x = \frac{1}{\sqrt{e}}$ or 0.607	24. $x = 4 + \ln 2$ or 4.693
25. $x = \frac{e^8}{2}$ or 1490.479	26. $x = \frac{1}{10}$ or 0.10
27. $x = \frac{1}{2}$ or 0.50	28. $x = -3$
29. $x = 2e^3 + 1$ or 41.171	30. $x = \frac{1}{e}$ or 0.368
31. $x = 25 \ln 2$ or 17.329	32. $x = \frac{1}{18}$ or 0.056

1.

$$5^{2x-1} = 5^4$$



2.

$$3 \log_2(x + 2) = 6$$



3.

$$\ln x + \ln 4 = 2$$



4.

$$2 \log x - \log 4 = 2$$



5.

$$e^{2x} = 25$$



6.

$$\log(3x - 5) = \log(2x - 1)$$



7.

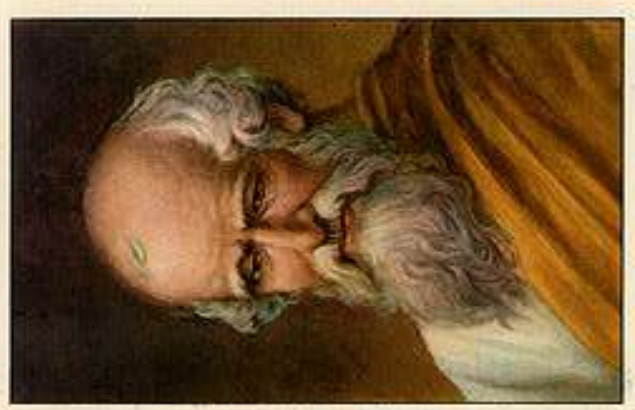
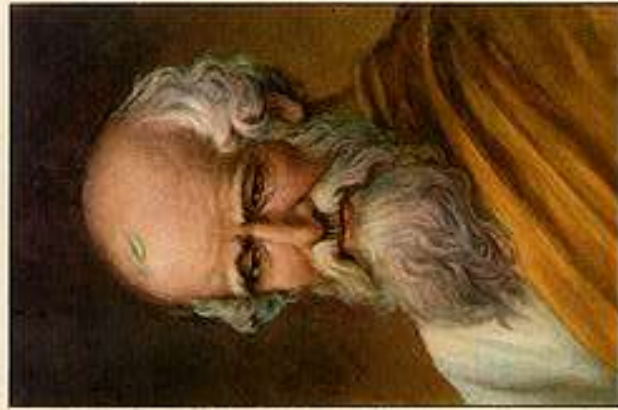
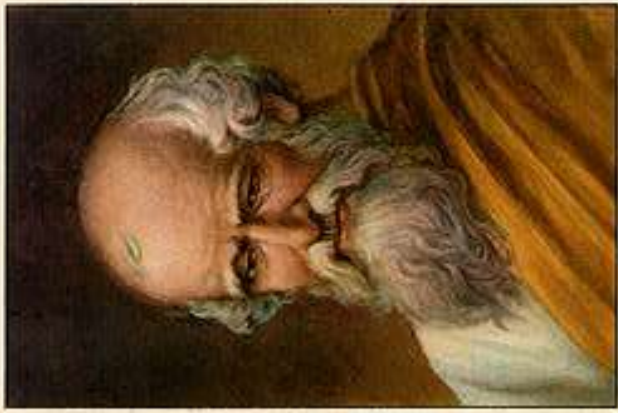
$$\frac{1}{25} = 5^{3x+2}$$



8.

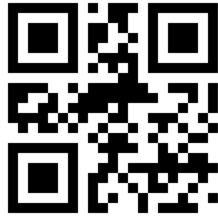
$$3^{2x-7} = 27^x$$





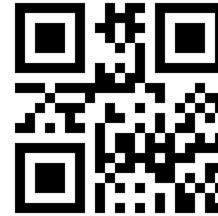
9.

$$4^{x-1} = 4^3$$



10.

$$5^{2x+3} = 125^x$$



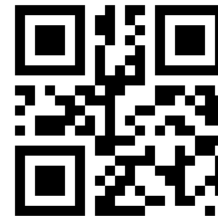
11.

$$\log(6x) = \log(4x + 5)$$



12.

$$2 \ln e^x = 9$$



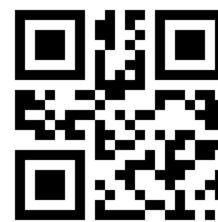
13.

$$2 \log 3x - \log 9 = 1$$



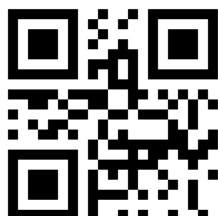
14.

$$2 \ln x + \ln x^2 = 4$$



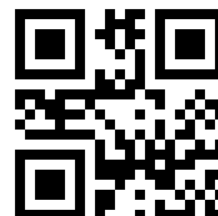
15.

$$\frac{1}{16} = 4^{3x-1}$$



16.

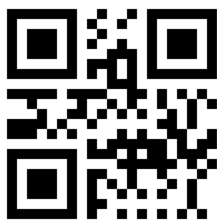
$$3 \ln e^{2x} = 30$$





17.

$$\ln e^{x+5} = 17$$



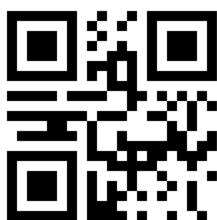
18.

$$\log x - \log 4 = 3$$



19.

$$\log(8 - 3x) = \log(7 - 5x)$$



20.

$$5 \ln(3x - 2) = 15$$



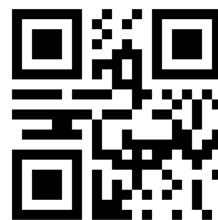
21.

$$\log(3x - 2) = 3$$



22.

$$4^{x-1} = 64^x$$



23.

$$4 \ln x = -2$$



24.

$$e^{x-4} = 2$$





25.

$$\ln x + \ln 4x = 16$$



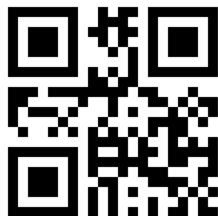
26.

$$4 \log x = -4$$



27.

$$\frac{1}{4} = 2^{2x-3}$$



28.

$$\log 5x = \log(9 + 8x)$$



29.

$$\ln(x - 1) - \ln 2 = 3$$



30.

$$\ln x = -1$$



31.

$$e^{\frac{x}{5}} = 32$$



32.

$$-2 \log_3 6x = 2$$





1.

$$5^{2x-1} = 5^4$$

2.

$$3 \log_2(x + 2) = 6$$

3.

$$\ln x + \ln 4 = 2$$

4.

$$2 \log x - \log 4 = 2$$

5.

$$e^{2x} = 25$$

6.

$$\log(3x - 5) = \log(2x + 1)$$

7.

$$\frac{1}{25} = 5^{3x+2}$$

8.

$$3^{2x-7} = 27^x$$

9.

$$4^{x-1} = 4^3$$

10.

$$5^{2x+3} = 125^x$$

11.

$$\log(6x) = \log(4x + 5)$$

12.

$$2 \ln e^x = 9$$

13.

$$2 \log 3x - \log 9 = 1$$

14.

$$2 \ln x + \ln x^2 = 4$$

15.

$$\frac{1}{16} = 4^{3x-1}$$

16.

$$3 \ln e^{2x} = 30$$

17.

$$\ln e^{x+5} = 17$$

18.

$$\log x - \log 4 = 3$$

19.

$$\log(8 - 3x) = \log(7 - 5x)$$

20.

$$5 \ln(3x - 2) = 15$$

21.

$$\log(3x - 2) = 3$$

22.

$$4^{x-1} = 64^x$$

23.

$$4 \ln x = -2$$

24.

$$e^{x-4} = 2$$

25.

$$\ln x + \ln 4x = 16$$

26.

$$4 \log x = -4$$

27.

$$\frac{1}{4} = 2^{2x-3}$$

28.

$$\log 5x = \log(9 + 8x)$$

29.

$$\ln(x - 1) - \ln 2 = 3$$

30.

$$\ln x = -1$$

31.

$$e^{\frac{x}{5}} = 32$$

32.

$$-2 \log_3 6x = 2$$