

Name:
Algebra 2

Date:

Review for quiz on Graphing and Solving Exponential Equations

1. Sketch the graphs of the following exponential functions. A rough graph is fine; it should show the asymptote, y-intercept, and general shape (ie end behavior). Give the domain and range and equation of the asymptote. If

a. $f(x) = 4 \cdot \left(\frac{3}{4}\right)^x$

b. $f(x) = -2 \cdot 0.7^x + 5$

c. $f(x) = 5 \cdot 2^{x+1} - 4$

d. $f(x) = -\frac{3}{4} \cdot \left(\frac{1}{3}\right)^x - 2$

e. $f(x) = 4 \cdot \left(\frac{1}{3}\right)^{x-2} - 5$

f. $f(x) = -2 \cdot 3^{x+2} + 5$

2. Solve for x.

a. $10^{1-x} = 100^2$

b. $3^{x^2-3x} = 81$

c. $4^{2x^2+2x} - 8 = 0$

d. $4^{x+1} = \frac{1}{64}$

e. $8^{x-2} = \sqrt{8}$

f. $2^x = -4$

g. $9^x = 27^2$

h. $\left(\frac{1}{2}\right)^x = 4$

i. $4^{5-9x} = \frac{1}{8^{x-2}}$

j. $6(2)^{x+3} = 48$

k. $7^{2x+1} = 7^{3x-2}$

l. $6^{-x} = \frac{\sqrt{6}}{\sqrt[5]{6}}$

Answers

2.

a. $x = -3$, b. $x = 4$ $x = -1$, c. $x = -3/2$ $x = 1/2$, d. $x = -4$, e. $x = 5/2$, f. no solution, g. $x = 3$
h. $x = -2$, i. $x = 4/15$ j. $x = 0$, k. $x = 3$ l. $x = -3/10$