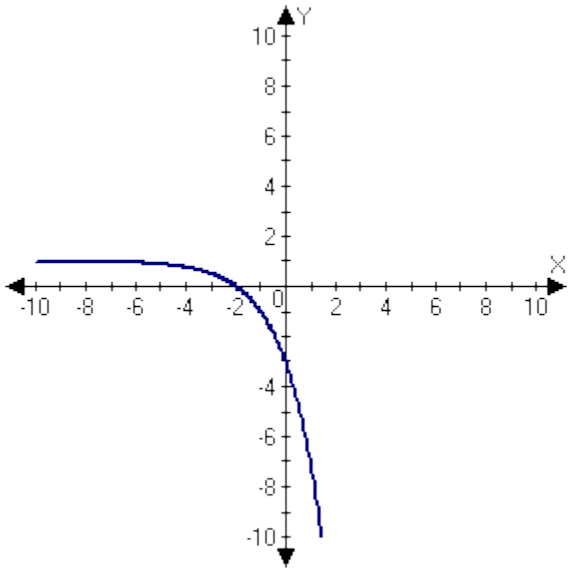
Review Exercise Set 14

Exercise 1: Graph the given exponential function by making a table of coordinates and plotting the points.

$f(x) = 2^{x-1}$

Exercise 2: Select the exponential function that matches the function depicted in the graph below.



A) $f(x) = 2^{-x+2} - 1$
B) $f(x) = -2^{x+2} + 1$
C) $f(x) = -2^{x-2} + 1$
D) $f(x) = 2^{x+2} - 1$

Exercise 3: Graph the given exponential function by using transformations.

$g(x) = e^{x+1} - 2$

Exercise 4: Graph the given exponential function by using transformations.

$h(x) = -e^{2x} + 1$

Exercise 5: Find the value of $6000 deposited into an account over a 5 year period if the account has an interest rate of 7.25% and is compounded monthly. Round your answer to the nearest cent.

Review Exercise Set 14 Answer Key

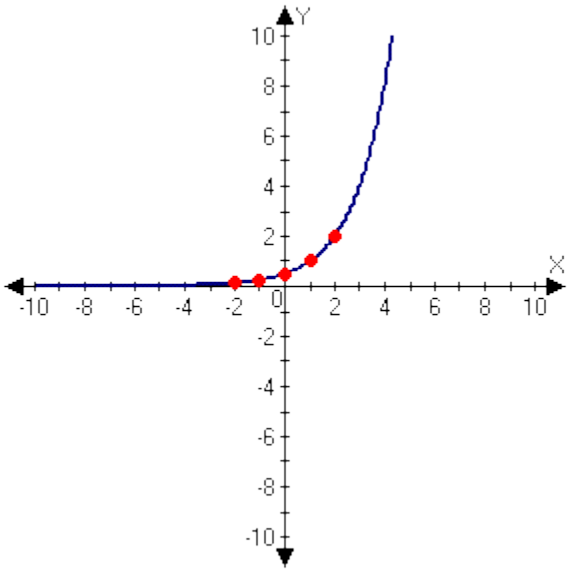
Exercise 1: Graph the given exponential function by making a table of coordinates and plotting the points.

$f(x) = 2^{x-1}$

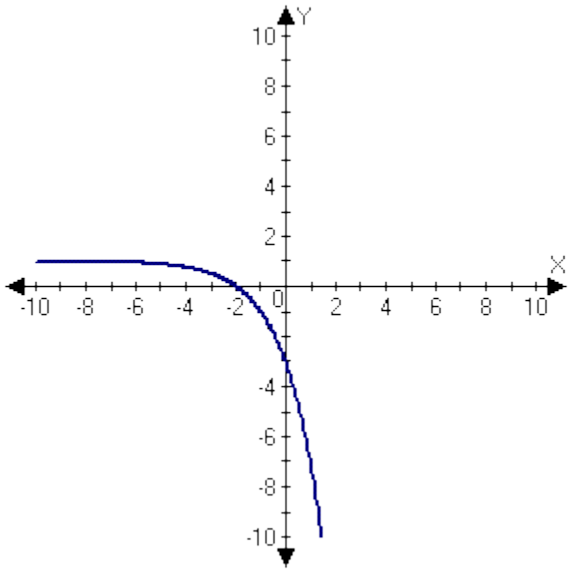
Select values for x and substitute them into f(x)

x	f(x)
-2	$2^{-2-1} = 2^{-3} = \frac{1}{8}$
-1	$2^{-1-1} = 2^{-2} = \frac{1}{4}$
0	$2^{0-1} = 2^{-1} = \frac{1}{2}$
1	$2^{1-1} = 2^{0} = 1$
2	$2^{2-1} = 2^{1} = 2$

Plot points and sketch the graph



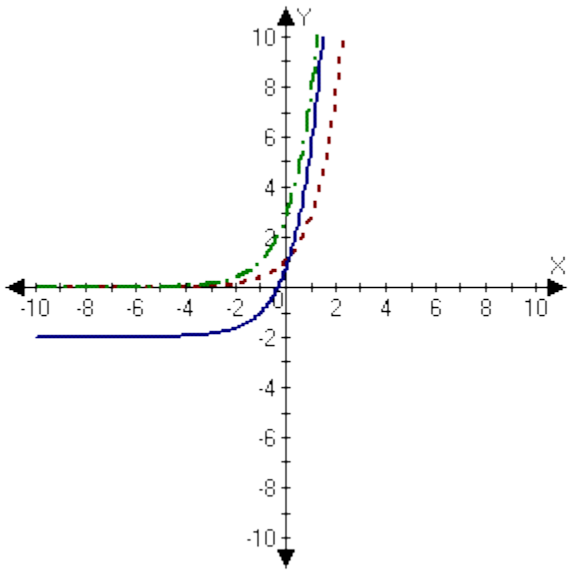
Exercise 2: Select the exponential function that matches the function depicted in the graph below.



A) $f(x) = 2^{-x+2} - 1$
B) $f(x) = -2^{x+2} + 1$
C) $f(x) = -2^{x-2} + 1$
D) $f(x) = 2^{x+2} - 1$

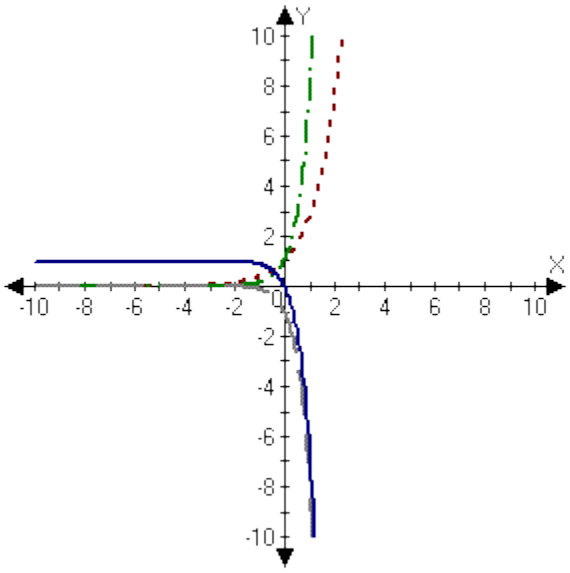
Exercise 3: Graph the given exponential function by using transformations.

$g(x) = e^{x+1} - 2$



Exercise 4: Graph the given exponential function by using transformations.

$h(x) = -e^{2x} + 1$



Exercise 5: Find the value of $6000 deposited into an account over a 5 year period if the account has an interest rate of 7.25% and is compounded monthly. Round your answer to the nearest cent.

Identify the information given

Principal (P) = $6,000
Rate (r) = 7.25% or 0.0725
Time (t) = 5 years
Compounding factor (n) = 12

Substitute the known values into the compound interest formula

$$A = P\left(1+\frac{r}{n}\right)^{nt}$$
$$= 6000\left(1+\frac{0.0725}{12}\right)^{12(5)}$$
$$= 6000\left(1.006\right)^{60}$$
$$\approx 8612.11$$

There would be $8,612.11 in the account after 5 years.