

## Exponential Functions

1. Approximate each number using a calculator. Round your answer to three decimal places (similar to p.420 #2)

$$7^{3.1}$$

2. Approximate each number using a calculator. Round your answer to three decimal places (similar to p.420 #4)

$$9^{\sqrt{3}}$$

3. Approximate each number using a calculator. Round your answer to three decimal places (similar to p.420 #10)

$$e^{-2.5}$$

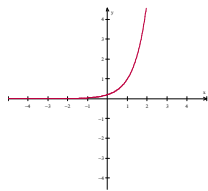
4. Graph each function (similar to p.420 #12)

$$f(x) = 4^x$$

5. Graph each function (similar to p.420 #16)

$$f(x) = \left(\frac{1}{4}\right)^x$$

6. The graph of an exponential function is given. Select the function for each graph from the following options: (similar to p.420 #19-24)



$$f(x) = 5^{x-1}$$

$$g(x) = 5^x$$

$$h(x) = -5^x$$

$$i(x) = -5^{x-1}$$

$$j(x) = 5^x + 1$$

$$k(x) = -5^x - 1$$

7. Describe the transformation occurring and graph each function (similar to p.421 #30)

$$g(x) = 4^{x-1} + 3$$

8. Describe the transformation occurring and graph each function (similar to p.421 #36)

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

9. Describe the transformation occurring and graph each function (similar to p.421 #40)

$$g(x) = -e^{x+4} - 1$$

10. Find the accumulated value of an investment of \$5,000 for 20 years at an interest rate of 3.1% if the money is:

- a) compounded semiannually
  - b) compounded quarterly
  - c) compounded monthly
  - d) compounded continuously
- (similar to p.421 #54)

11. Suppose that you have \$50,000 to invest. Which investment yields the greater return over 7 years: 5.12% compounded quarterly or 5.3% compounded semiannually? (similar to p.421 #56)