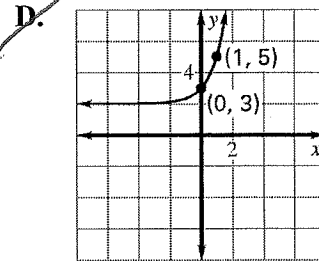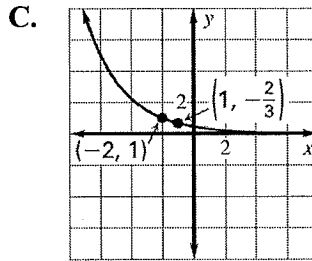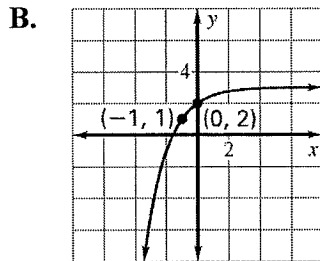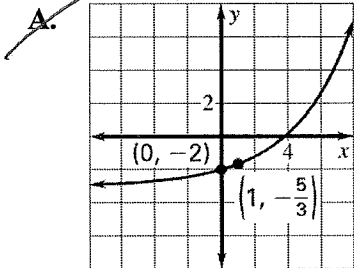Algebra II Sections 7.1-7.3 Review Name: _Key_ Hr.____

Match the function with its graph.

1. $f(x) = \left(\frac{2}{3}\right)^{x+2}$ C

2. $f(x) = 3^x + 2$ D

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

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

A.

$(0, -2)$
$\left(1, -\frac{5}{3}\right)$

B.

$(-1, 1)$ $(0, 2)$

C.

$\left(1, -\frac{2}{3}\right)$
$(-2, 1)$

D.

$(1, 5)$
$(0, 3)$

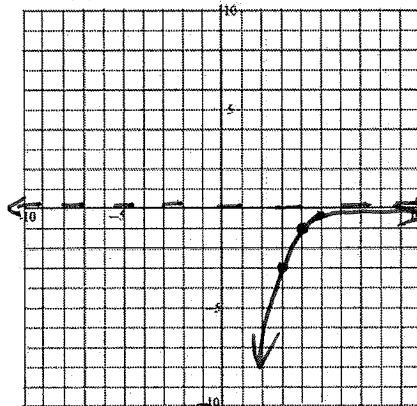**Graph the function. Then state the domain and range.**

5. $f(x) = 2^{x+1} - 3$
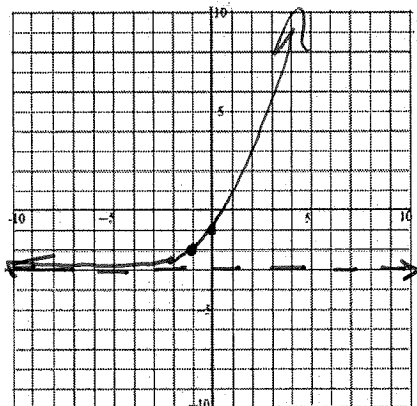
Domain: _$\mathbb{R}$_

Range: _$y > -3$_

6. $g(x) = -\left(\frac{1}{3}\right)^{x-4}$
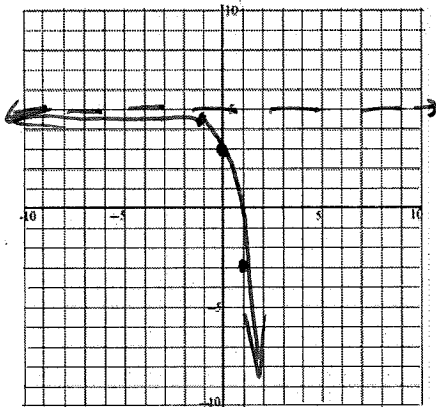

Domain: _$\mathbb{R}$_

Range: _$y < 0$_

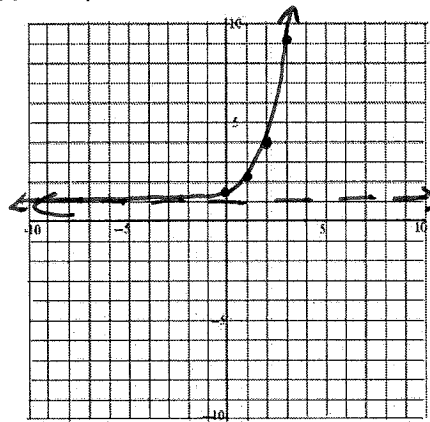7. $h(x) = -2 * 4^x + 5$

Domain: _$\mathbb{R}$_

Range: _$y < 5$_

8. $y = 3e^{x-2} + 1$

Domain: _$\mathbb{R}$_

Range: _$y > 1$_

For Exercises 9-10, use the following information.
You buy a new car for $22, 500. The value of the car *decreases* by 25% each year.

9. Write an exponential decay model giving the car's value after t years.

$$A = P(1-r)^t$$
$$A = 22500(1-0.25)^t$$

$$\boxed{A = 22500(0.75)^t}$$

10. What is the value of the car after three years?

$$22500(0.75)^3$$

$$\boxed{\$9492.19}$$

For Exercises 11-14, use the following information.
You deposit $3500 in an accont that earns 1.3% annual interest. Find the balance after 5 years if the interest is compounded with the given frequency.

11. Annually

$$A = 3500\left(1+\frac{0.013}{1}\right)^{1(5)}$$

$$\boxed{\$3733.49}$$

12. Daily

$$A = 3500\left(1+\frac{0.013}{365}\right)^{365 \cdot 5}$$

$$\boxed{\$3735.05}$$

13. Continuously

$$A = 3500e^{0.013(5)}$$

$$\boxed{\$3735.06}$$

14. Which is the best deal? By how much?

Continuously by $\$1.57$