

4. b)  $-\frac{1}{3}f(-1(x-3))-1$

c)  $-f(0.5(x+8))+2$

5. a)  $f(x) = 3(6^{2x}) + 1 \checkmark$

OR  
 $g(x) = 3(6)^{2x} + 1 \checkmark$

b)  $f(x) = -6^{\frac{1}{3}x} + 5$

c)  $f(x) = -\frac{1}{4}(6^{-3(x+1)}) - 6$

6. a)  $y = 1$   $\left\{ \begin{array}{l} 4 \\ \{x \in \mathbb{R}\} \end{array} \right\} \left\{ \begin{array}{l} \{y \in \mathbb{R} \mid y > 1\} \end{array} \right\}$

b)  $y = 5$   $\left\{ \begin{array}{l} 4 \\ \{x \in \mathbb{R}\} \end{array} \right\} \left\{ \begin{array}{l} \{y \in \mathbb{R} \mid y < 5\} \end{array} \right\}$

c)  $y = -6$   $\left\{ \begin{array}{l} -\frac{5185}{864} \\ \{x \in \mathbb{R}\} \end{array} \right\} \left\{ \begin{array}{l} \{y \in \mathbb{R} \mid y < -6\} \end{array} \right\}$

	Coor D	Initial Value	Growth or Decay Rate
8. a)	G	100	8%
b)	D	32	-5%
c)	G	5	200%
d)	D	600	-37.5%

9. a) 42000 c)  $V(8) = \$585.39$

b) -18% d) \$7560

e) 25 573.13

$V(n) = 42000(0.82)^{\frac{30}{12}}$

f)  $0 \ 1 \ 2 \ 3 \ 4 \ 5$   
 After 5: \$15571.07  
 After 4: \$18989.11  
 \$3418.04

10. a)  $y = 1000(2)^{\frac{x}{4}}$  c) 90509.7

b) 16000

11. a)  $y = 15000(1.0425)^x$

b)  $y = 250(0.5)^{\frac{x}{3}}$

c)  $y = 34560(1.03)^x$

d)  $y = 100(2)^{\frac{x}{5}}$

Test outline

Exponent Rules - 1<sup>st</sup> quiz

- Example write as a single power and evaluate

$$\frac{3^4}{3^4} = 3^0 = 1$$

- Rational exponent (fractions)

- Radicals  $\leftrightarrow$  rational exponents

ex.  $\sqrt[2]{5^3} = 5^{\frac{3}{2}}$  ✓

$$9^{\frac{3}{2}} = (\sqrt[2]{9})^3 \text{ OR } \sqrt[2]{9^3}$$

$$= 3^3$$

- Simplify completely  
# and variables

2<sup>nd</sup> Quiz  $\rightarrow$  transformations

$\rightarrow$  Graph  $\rightarrow$  mark ASM, key points

$\rightarrow$  Describe

$\rightarrow$  Equations (function notation and

Ex. Base graph is  $y = 3^x$

$$f(x) = -3f(2x+6) + 3$$

$$= -3f(2(x+3)) + 3$$

$\rightarrow$  No  $f(x)$

$$y = -3(3)^{2x+6} + 3$$

Domain & Range, y-int.

NOT ON QUIZ

Table of values

$\rightarrow$  identify type of graph

Word problems  $\rightarrow$  5 questions

How to change one graph to other

$$y = 2^{2x+4} \text{ to } y = 4^{x-5} + 4$$

$$= 2^{2(x+2)}$$

$$\rightarrow = 4^{(x+2)} + 0$$