

Review questions:

p.199 - 203 # 2, 7, 8, 9 a, b, 10 - 17, 19 - 31

p.199 - 203

- 2 a. exponential; common ratio  
b. linear; common difference  
c. exponential; common ratio  
d. neither  
e. exponential; common ratio
- 7 a. y-int = 0.2, decay  
b. y-int = 3.1, growth  
c. y-int = 1.3, growth  
d. y-int = 0.8, decay

8. function g:  $a = 2$ ,  $0 < b < 1$

function f:  $a = 1$ ,  $b > 1$

9 a. 53.6 mg

b. 1.3 billion years

10 a.  $y = 5(3)^{x/2}$

b.  $y = 3(1/4)^{x/3}$

11 a.  $C = 32(0.6)^{x/2}$

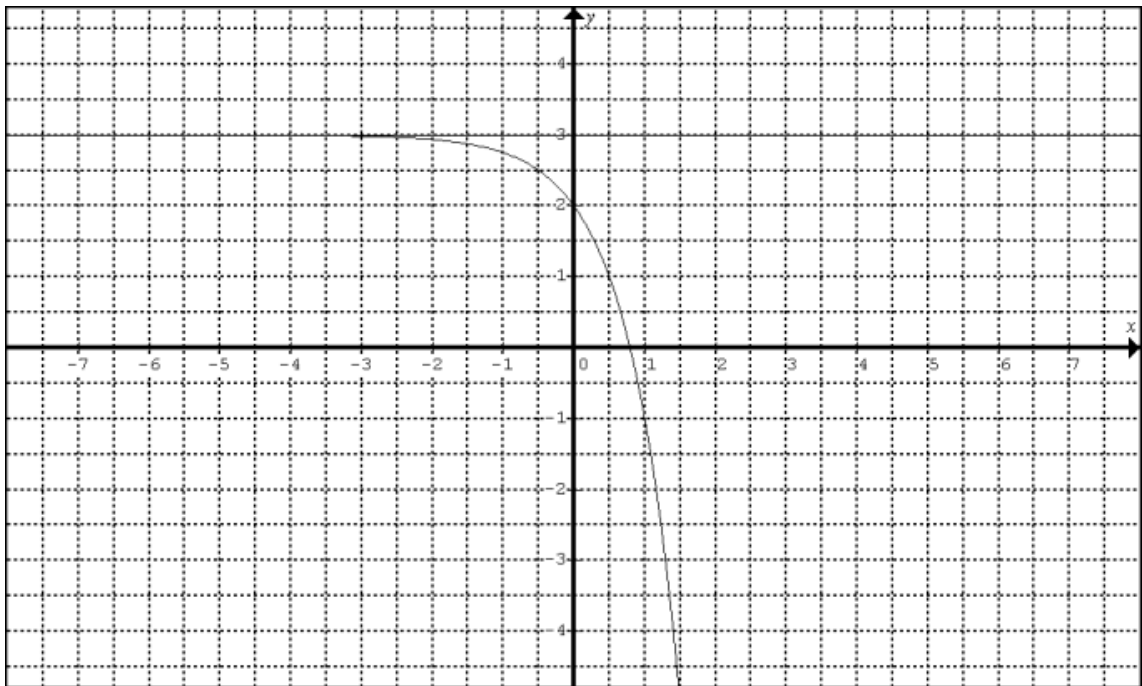
b.  $C = 8.9 \mu\text{g}/\text{cm}^3$

12.

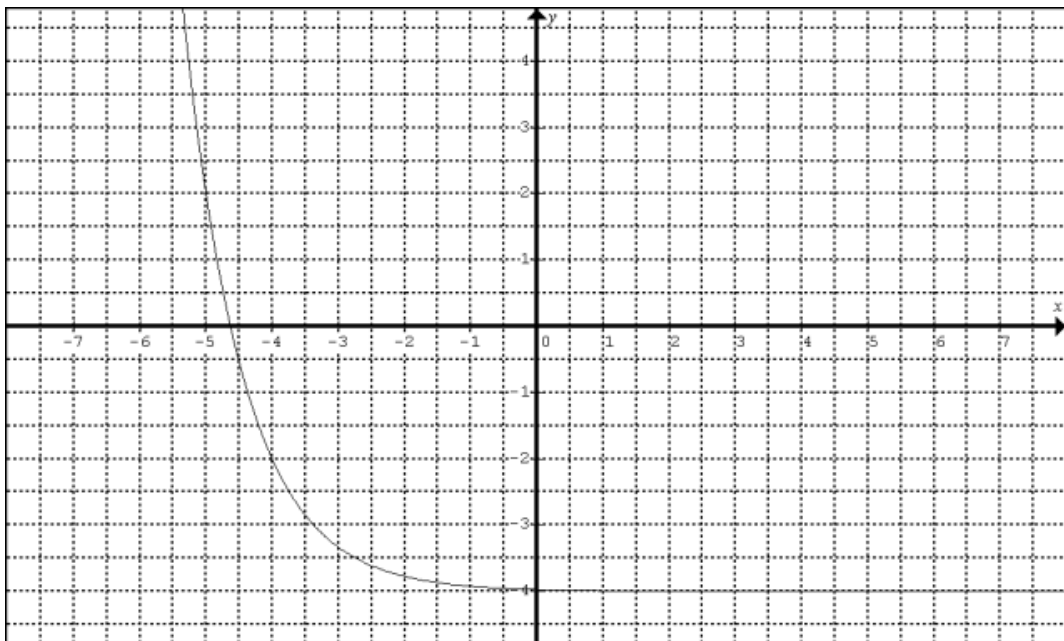
FUNCTION	y-intercept	Horizontal Asymptote	Growth or Decay
A	(0, 2)	$y = 1$	Growth
B	(0, -3)	$y = -5$	Decay
C	(0, 23.4)	$y = 3.4$	Growth
D	(0, 0.8)	$y = 0$	Decay

- 13 a. increasing      b. decreasing
- c. decreasing      d. increasing
- e. decreasing      f. decreasing
- g. increasing      h. increasing

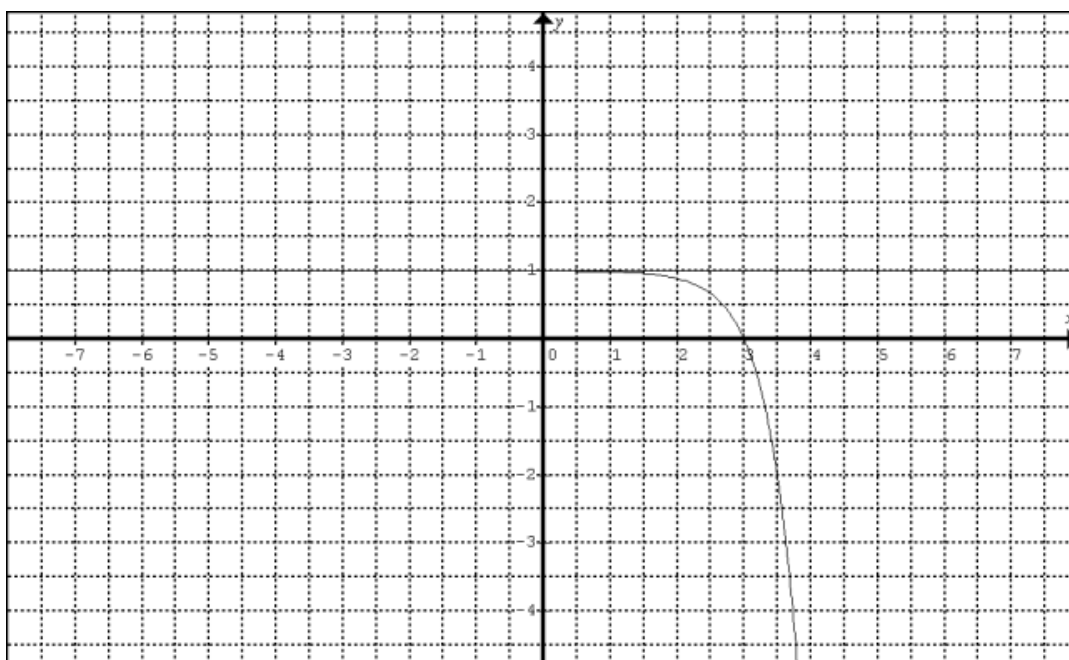
14 a.



14 b.



14 c.



15 a.  $y < 2$       b.  $y > -5$

16. \$16 744

17 a.  $y = 5(2)^x + 10$

b.  $y = 3(\frac{1}{4})^x - 15$

19 a.  $x = -4$       b.  $x = \frac{3}{5}$       c.  $x = -\frac{10}{11}$

d.  $x = \frac{7}{2}$       e.  $x = \frac{23}{5}$

20 a. 6480 years      b. 18%

21 a.  $g(\frac{1}{2}) = -4$       b.  $x = -\frac{1}{4}$



22.  $x = 3, y = 2$

23 a.  $x = 3$  or  $x = 2$       b.  $x = -2$  or  $x = 0$       c.  $x = 2$

24. 56 years

25 a. 8    b. 5    c.  $\frac{1}{4}$     d.  $\frac{3}{2}$     e. 2    f.  $\frac{1}{25}$

g.  $\frac{1}{9}$     h. 10    i.  $\frac{1}{2}$     j.  $\frac{5}{3}$     k. 8    l. 8

m. -9    n.  $\frac{1}{4}$     o.  $\frac{8}{27}$     p.  $-\frac{1}{125}$     q.  $\frac{1}{16}$     r.  $\frac{9}{4}$

26 a.  $x = -\frac{17}{6}$       b.  $x = \frac{25}{12}$       c.  $x = \frac{2}{9}$

27 a. 34 g      b. 36 600 years

28 a.  $w^4$    b.  $a^3b^{-2}$    c.  $81a^{13}b^{-7}$    d.  $(8/9)x^{-16}y^{16}$    e.  $x^{5a}$   
 f.  $x^{-a-8b}$    g.  $x^4$    h.  $x^{(7/6)}y^{(5/3)}$    i.  $x^{(5/2)}y^{(9/2)}$    j.  $2^{3x-2}5^{x+4}$

29 a. 21   b.  $157/360$    c. 20   d.  $13/54$

30 a.  $x = 6$  or  $x = -1$    b.  $x = 3/2$    c.  $x = 81$   
 d.  $x = 1/2$  or  $x = 0$    e.  $x = 3/2$

31.  $(6^{a+1} 36^{a+1}) / ((6^3)^{a+1}) = 1$