

Answers:

**UNIT 1**

1) D	2) C	3) D	4) B	5) B	6) D	7) C	8) C	9) B	10) D
11) D	12) A	13) D	14) C	15) A					

Answers:

**UNIT 2**

1) B	2) C	3) C	4) A	5) A	6) D	7) C	8) A	9) B	10) B
11) C	12) C	13) B	14) B	15) D					

Answers

**UNIT 3**

- 1a) 16 seconds    b) 128 feet    c) 15 seconds and 17 seconds  
2) c  
3) c  
4) They are 9 units apart  
5) 2 irrational solutions  
6a) 4 seconds    b) c    c) [0,4]  
7) c  
8) d  
9) a  
10) d  
11)  $x^2 + 6x + 5$   
12)  $10\sqrt{3}$   
13) 3 m by 9 m  
14) d  
15) a

Answers

**UNIT 4**

- 1) 175 grams left  
2) 24 hours after  
3) Yes, it is a function because it has a constant rate of change and every input has a distinct output  
4) A  
5a)  $y = 2400(1 - .14)^x$     b) The first printer (\$1129 to \$949.20)    c) At least \$1121  
6) \$37,402.60  
7) The second account (14,113.80 compared to \$13,474.50)  
8) 1,228,800  
9)  $y = -(4)^x$   
10) 7 terms  
11) 2,097,152  
12)  $A_n = 5 \left(\frac{1}{5}\right)^{n-1}$   
13)  $-\frac{16}{27}, -\frac{32}{81}, -\frac{64}{243}, -\frac{128}{729}, A_n = -\frac{16}{27} \left(\frac{2}{3}\right)^{n-1}$   
14) The function should be  $f(n) = 240(1.1)^x$ , correct answer is \$386.52

Answers

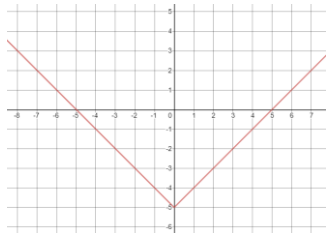
**UNIT 5**

1a) 5%    b) 22 months    c) \$5,850.50

2a)  $f(x) = -2x + 8$      $g(x) = x^2 - 3$

2b)  $f(x)$  has a constant rate of change of -2;  $g(x)$  has a non-constant rate of change where it decrease than increase.... The y-intercept for  $f(x)$  is 8 and the y-intercept for  $g(x)$  is -3

3)  $y = -3x^2 - 2$



4)

5a)  $f(x) = -x - 2$      $g(x) = (x - 1)^2 - 2$      $h(x) = -2^x - 2$

5b)  $f(x)$  reflect and add 2     $g(x)$  reflect and up 2     $h(x)$  reflect and add 2

5c)  $f(x)$  -2 (decreasing)     $g(x)$  0, the value stays the same     $h(x)$  -1.5 it is a decay function

5d)  $(-\infty, \infty)$  for all.

5e)  $f(x): (-\infty, \infty)$      $g(x): (0, \infty)$      $h(x): (-\infty, -2)$

5f)  $x \rightarrow -\infty, f(x) \rightarrow \infty$  and  $x \rightarrow \infty, f(x) \rightarrow -\infty$

$x \rightarrow -\infty, g(x) \rightarrow \infty$  and  $x \rightarrow \infty, g(x) \rightarrow \infty$

$x \rightarrow -\infty, h(x) \rightarrow -2$  and  $x \rightarrow \infty, h(x) \rightarrow \infty$

6a) 2 is the y-intercept    b) 2 is the degree

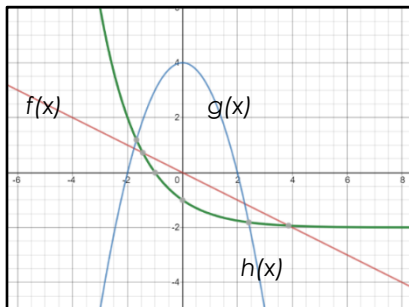
c) 2 is the asymptote and it means the graph is shifted down 2

7) Answers Vary

8a) linear 1.1    b) quadratic    c) exponential growth  $y = 10(2)^x$     d) linear -7

9) Plan 2, it would only cost \$81.92 instead of \$140

10a)



a)  $f(x)$  reflect the slope so it has a positive slope so  $-f(x)$

b)  $g(x - 4)$  or  $g(x) = -(x - 4)^2 + 4$ . Shift the vertex to the right 4 so it will be increasing

c)  $h(x)$  reflect the slope so  $-h(x)$

c)  $f(x)$  approaches  $\infty$  As  $x$  approaches  $-\infty$  and  $f(x)$  approaches  $-\infty$  As  $x$  approaches  $\infty$

$g(x)$  approaches  $-\infty$  As  $x$  approaches  $-\infty$  and  $g(x)$  approaches  $-\infty$  As  $x$  approaches  $\infty$

$h(x)$  approaches  $\infty$  As  $x$  approaches  $-\infty$  and  $f(x)$  approaches  $-2$  As  $x$  approaches  $\infty$

Answers:

**UNIT 6**

1) B	2) B	3) D	4) C	5) C	6) A	7) C	8) A	9) A	10) A
11) D	12) A	13) B	14) A	15) B					