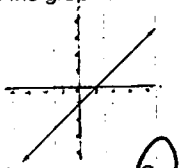
Name: _____ Date: _____

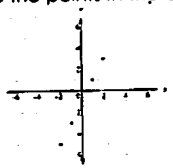
EOCT Practice Problems

1. Which equation corresponds to the graph shown?



A. y = x + 1 B. y = 2x + 1 C. y = x - 2 D. y = 3x - 1

2. Which equation corresponds to the points in the coordinate plane?



A. y = 2x - 1 B. y = x - 3 C. y = x + 1 D. y = x - 1

3. Based on the tables, what common point do the equations y = –x+5 and y = 2x–1 share?

x	y
–1	6
0	5
1	4
2	3
3	2

x	y
–1	–3
0	–1
1	1
2	3
3	5

A. (1, 1) B. (3, 5) C. (2, 3) D. (3, 2)

4. The first term in the sequence is -1. Which function represents the sequence?

n	1	2	3	4	5	...
a_n	–1	1	3	5	7	...

A. n + 1 B. n + 2 C. 2n - 1 D. 2n – 3

5. Which functions is modeled with this table?

x	f(x)
1	8
2	11
3	14
4	17

A. f(x) = x + 7 B. f(x) = x + 9 C. f(x) = 2x + 5 D. f(x) = 3x + 5

6. Which explicit formula describes the pattern in this table?

d	C
2	6.28
3	9.42
5	15.70
10	31.40

A. d = 3.14 x C B. 3.14 x C = d C. 3.14 x 10 = c D. C = 3.14 x d

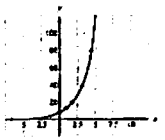
7. If f(12) = 4(12) – 20, which function gives f(x)?

A. f(x) = 4x B. f(x) = 12x C. f(x) = 4x – 20 D. f(x) = 12x – 20

8. A farmer owns a horse that can continuously run an average of 8 miles an hour for up to 6 hours. Let y be the distance the horse can travel for a given x amount of time in hours. The horse's progress can be modeled by a function. Which of the following describes the domain of the function?

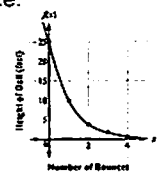
A. $0 \le x \le 6$ B. $0 \le y \le 6$ C. $0 \le x \le 48$ D. $0 \le y \le 48$

9. A population of squirrels doubles every year. Initially there were 5 squirrels. A biologist studying the squirrels created a function to model their population growth, $P(t) = 5(2^t)$ where t is time. The graph of the function is shown. What is the range of the function?



A. Any real number
B. Any whole number greater than 0
C. Any whole number greater than 5
D. Any whole number greater than or equal to 5

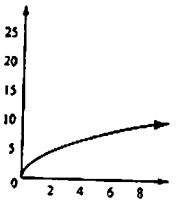
10. The function graphed on this coordinate grid shows y, the height of a dropped ball in feet after its x^{th} bounce.

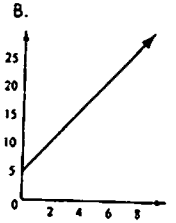


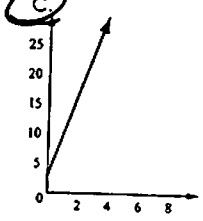
On which bounce was the height of the ball 10 feet?

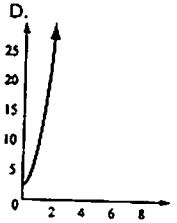
A. Bounce 1 B. Bounce 2 C. Bounce 3 D. Bounce 4

11. To rent a canoe, the cost is $3 for the oars and life preserver, plus $5 an hour for the canoe. Which graph models the cost of renting a canoe?

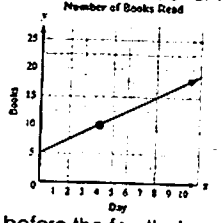
A. 

B. 

C. 

D. 

12. Juan and Patti decided to see who could read the most books in a month. They began to keep track after Patti had already read 5 books that month. This graph shows the number of books Patti read for the next 10 days.



$\frac{5}{4}x - 5$

If Juan has read no books before the fourth day of the month and he reads at the same rate as Patti, how many books will he have read by day 12?

A. 5 B. 10 C. 15 D. 20

13. Which function represents this sequence?

n	1	2	3	4	5	...
a_n	6	18	54	162	486	...

A. $f(n) = 3^{n-1}$ B. $f(n) = 6^{n-1}$ C. $f(n) = 3(6^{n-1})$ D. $f(n) = 6(3^{n-1})$

14. The first term of the sequence is 3. Which function represents the sequence?

n	1	2	3	4	5	...
a_n	3	10	17	24	31	...

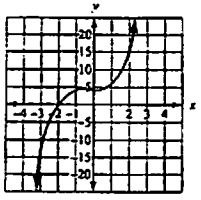
A. $f(n) = n + 3$ B. $f(n) = 7n - 4$ C. $f(n) = 3n + 7$ D. $f(n) = n + 7$

15. The points (0, 1), (1, 5), (2, 25), (3, 125) are on the graph of a function. Which equation represents that function?

A. $f(x) = 2^x$ B. $f(x) = 3^x$ C. $f(x) = 4^x$ D. $f(x) = 5^x$

0 1
1 5
2 25
3 125

16. The graph of a function is shown on this coordinate plane.



Which statement best describes the behavior of the function within the interval $x = -3$ to $x = 0$?

A. From left to right, the function rises only.
B. From left to right, the function falls and then rises.
C. From left to right, the function rises and then falls.
D. From left to right, the function falls, rises, and then falls.

17. A function g is an odd function. If $g(-3) = 4$, which of the points lie on the graph of g?

(-3,4) (3,-4)

A. (3, –4) B. (–3, –4) C. (4, –3) D. (–4, 3)

18. Which statement is true about the function $f(x)=7$?

A. The function is odd because $-f(x) = -f(x)$.
B. The function is even because $-f(x) = f(-x)$.
C. The function is odd because $f(x) = f(-x)$.
D. The function is even because $f(x) = f(-x)$.

19. Which table represents a function with a variable growth rate?

A.

x	0	1	2	3	4
y	5	6	7	8	9

B.

x	0	1	2	3	4
y	0	22	44	66	88

C.

x	0	1	2	3	4
y	5	13	21	29	37

D.

x	0	1	2	3	4
y	0	3	9	27	81

20. If the parent function is $f(x) = mx + b$, what is the value of the parameter m for the curve passing through the points (–2, 7) and (4, 3)?

A. -9 B. -3/2 C. -2 D. -2/3

$$\frac{3-7}{4--2} = \frac{-4}{6} = -\frac{2}{3}$$