Review Day 2 Name _____

NC Math 1

1. NC: A school group sells gift cards and gift wrap for a fundraiser.
12 cards and 15 gift wraps sell for $111 15 cards and 30 gift wrap sell for $195
How much does each card cost?

2. NC: The function $h(t) = -16t^2 + 16t + 96$ represents the height of a cannon ball in feet t seconds after it is shot from a cannon. How many seconds does it take the cannonball to hit its target on the ground?

3. NC: Solve for h: $V = m(h - z)$

4. NC: The admission fee at a small fair is $1.50 for children and $4.00 for adults. On a certain day, 2200 people enter the fair and $5050 is collected. How many children and how many adults attended?

5. There were originally 5 bushes in the nursery. Each year, the Mitchells planted the same number of trees. In the 25th year, there were 205 bushes. Which function b(n) can be used to determine the number of bushes in the nursery in any particular year?

a. $b(n) = 5n$ b. $b(n) = 8n + 5$
c. $b(n) = 205/25n + 5$ d. $b(n) = 25n - 5$

6. The value of an antique car is modeled by the function $V(x) = 107{,}000(1.009)^x$ where x is the number of years since 2005. By what approximate percent rate is the value of the car increasing per year?

a. 0.09% b. 0.9 % c. 9% d. 1.009%

7.The function $y = 58.7(1.03)^t$ gives a country's population, y (in millions), where t is the number of years since January 1994. According to this function, what was the approximate population of the country in January 2002?

a. 70 million b. 72 million c. 74 million d. 76 million

8. The table below shows the amount of time seven students studied for a test and their respective test scores.

Time Spent Studying (minutes)	25	0	10	30	60	75
Test Score	77	72	80	85	96	98

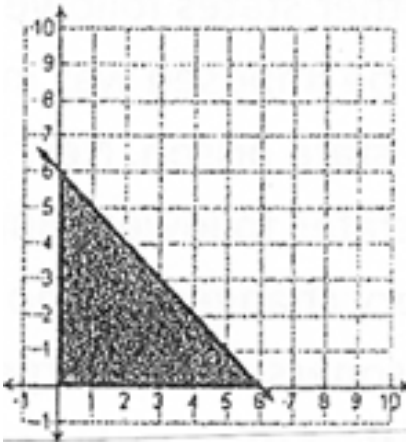
Which describes the relationship between the time a student spent studying and their test score?

a. There is a strong positive relationship between the variables.
b. There is a strong negative relationship between the variables.
c. There is a weak positive relationship between the variables.
d. There is a weak positive relationship between the variables.

9. Line q passes through (6, 4) and is perpendicular to the graph of the line y = -2/3x + 15. Which is an equation of line q?

a. y = 3/2x – 1.6 b. y = 3/2 x – 5 c. y = -3/2x – 5 d. y = -3/2x + 4

10. Which situation is correctly modeled by the graph below?



a. The number of pounds of candy corns, y, minus the number of chocolates, x, is at least 6 pounds.
b. The number of pounds of candy corns, y, minus the number of chocolates, x, is at most 6 pounds.
c. The number of pounds of candy corns, y, plus the number of chocolates, x, is at least 6 pounds.
d. The number of pounds of candy corns, y, plus the number of chocolates, x, is at most 6 pounds.

11. NC: Ronnie rented a car for a trip. She paid a flat insurance fee of $24 plus twenty cents for each mile she drove. If she paid $78.60 to rent the car for 3 days, how many miles did Ronnie drive?

a. 254 miles b. 273 miles c. 302 miles d. 321 miles

12. NC: Bobby noticed that there are multiple combinations of nickels and dimes that add up to $0.75.

- Let x be the number of nickels
- Let y be the number of dimes

What is the domain where y is a function of x and the total value of the coins is $0.75?

a. {0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15}
b. {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15}
c. {0,1,3,5,7,9,11,13,15}
d. {1,3,5,7,9,11,13,15}

13. NC: Which expression is a factor of $c^2 + 6c - 16$

a. $(c - 8)$ b. $(c + 8)$ c. $(c - 6)$ d. $(c + 2)$

14. NC: Simplify $(3x + 3)(4x - 6)$

a. $12x^2 + 30x + 18$ b. $-12x^2 + 6x + 18$ c. $12x^2 - 6x + 18$ d. $12x^2 - 6x - 18$

15. The volume of a sphere is 2400 cubic inches. What is the approximate diameter of the sphere? ($V = 4/3\pi r^3$)

a. 16.6 in b. 10.1 in c. 8.3 in d. 4.2 in

16. Suppose that the equation $V = 20.8x^2 - 458.3x + 3500$ describes the value of a car from 1964 to 2002. What year did the car have the least value? (x=0 in 1964).

a. 1965 b. 1970 c. 1975 d. 1980

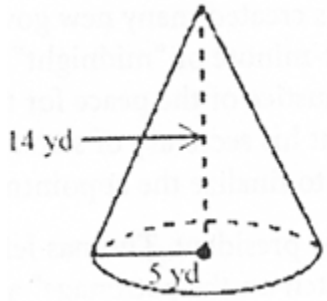
17. Which of the following is equivalent to $4x^2 - 36x + 81$?

a. $(2x - 9)^2$ b. $(2x + 9)^2$ c. $(2x + 6)(2x - 6)$ d. $(2x + 9)(2x - 9)$

18. A line segment has endpoints M(-2, 4) and N(4, -6). Which is an equation of a line perpendicular to MN?

a. $y = \frac{-5}{3}x + \frac{2}{3}$ b. $y = \frac{-3}{5}x - \frac{2}{5}$ c. $y = \frac{3}{5}x - \frac{8}{5}$ d. $y = \frac{5}{3}x - \frac{8}{3}$

19. Find the volume of the cone. $V = 1/3\pi r^2 h$



20. When Robert was born, his grandfather invested $1,000 for Robert's college education. At an interest rate of 4.5%, approximately how much would Robert have at age 18?

a. $1,810 b.$2,200 c. $3,680 d. $18,810

21. R is the midpoint of segment PS. Q is the midpoint of segment RS. P is located at (8, 10), and S is located at (12, -6). What are the coordinates of Q?

a. (4, 2) b. (2, -8) c. (11, -2) d. (10, 2)

22. A school group sells gift cards and gift wrap for a fundraiser.

4 cards and 2 gift wraps sell for $49 40 cards and 16 gift wrap sell for $460

How much does each gift wrap cost?

23. The function $h(t) = -16t^2 + 32t + 128$ represents the height of a cannon ball in feet t seconds after it is shot from a cannon. How many seconds does it take the cannonball to hit its target on the ground?

24. There were 150 tickets sold for a school wrestling match. Tickets for students were $2 and tickets for adults were $3. The total amount of money collected was $340. How many adult tickets were sold?

25. The value of a car is modeled by the function $V(t) = 5(1.008)^t$ where t is the number of years since 1965. Approximately what percentage rate is the value of the toy car increasing each year?

a. .8% b. .08% c. 8% d. 1.008%