

Funky Friday #5

Name: _____

Date: _____

1. In 2014, the cost to mail a letter was 49¢ for up to one ounce. Every additional ounce cost 21¢. Which recursive function could be used to determine the cost of a 3-ounce letter, in cents? 1. _____
- A. $a_1 = 49; a_n = a_{n-1} + 21$ B. $a_1 = 0; a_n = 49a_{n-1} + 21$
C. $a_1 = 21; a_n = a_{n-1} + 49$ D. $a_1 = 0; a_n = 21a_{n-1} + 49$
2. A car leaves Albany, NY, and travels west toward Buffalo, NY. The equation $D = 280 - 59t$ can be used to represent the distance, D , from Buffalo after t hours. In this equation, the 59 represents the 2. _____
- A. car's distance from Albany
B. speed of the car
C. distance between Buffalo and Albany
D. number of hours driving
3. Faith wants to use the formula $C(f) = \frac{5}{9}(f - 32)$ to convert degrees Fahrenheit, f , to degrees Celsius, $C(f)$. If Faith calculated $C(68)$, what would her result be? 3. _____
- A. 20° Celsius B. 20° Fahrenheit
C. 154° Celsius D. 154° Fahrenheit

4. Which scenario represents exponential growth? 4. _____
- A. A water tank is filled at a rate of 2 gallons/minute.
 - B. A vine grows 6 inches every week.
 - C. A species of fly doubles its population every month during the summer.
 - D. A car increases its distance from a garage as it travels at a constant speed of 25 miles per hour.
5. What is the *minimum* value of the function $y = |x + 3| - 2$? 5. _____
- A. -2
 - B. 2
 - C. 3
 - D. -3
6. What type of relationship exists between the number of pages printed on a printer and the amount of ink used by that printer? 6. _____
- A. positive correlation, but not causal
 - B. positive correlation, and causal
 - C. negative correlation, but not causal
 - D. negative correlation, and causal

7. Which point is a solution to the system below?

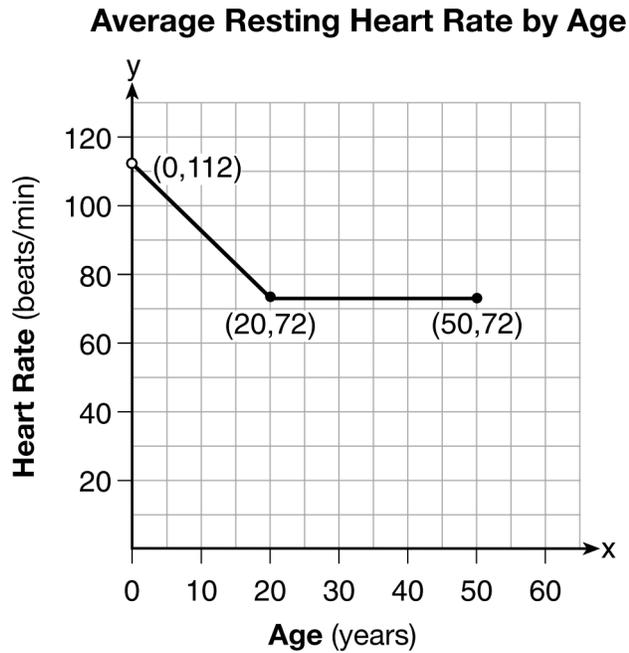
7. _____

$$\begin{aligned}2y &< -12x + 4 \\ y &< -6x + 4\end{aligned}$$

- A. $(1, \frac{1}{2})$ B. $(0, 6)$ C. $(-\frac{1}{2}, 5)$ D. $(-3, 2)$

8. A graph of average resting heart rates is shown below. The average resting heart rate for adults is 72 beats per minute, but doctors consider resting rates from 60–100 beats per minute within normal range.

8. _____



Which statement about average resting heart rates is *not* supported by the graph?

- A. A 10-year-old has the same average resting heart rate as a 20-year-old.
- B. A 20-year-old has the same average resting heart rate as a 30-year-old.
- C. A 40-year-old may have the same average resting heart rate for ten years.
- D. The average resting heart rate for teenagers steadily decreases.

9. If $s = \frac{2x+t}{r}$, then x equals 9. _____

- A. $\frac{rs-t}{2}$ B. $\frac{rs+1}{2}$ C. $2rs-t$ D. $rs-2t$

10. Which equation is an example of the use of the associative property of addition? 10. _____

- A. $x+7=7+x$ B. $3(x+y)=3x+3y$
C. $(x+y)+3=x+(y+3)$ D. $3+(x+y)=(x+y)+3$

11. Nora says that the graph of a circle is a function because she can trace the whole graph without picking up her pencil. 11. _____

Mia says that a circle graph is *not* a function because multiple values of x map to the same y -value.

Determine if either one is correct, and justify your answer completely.

12. Ian is borrowing \$1000 from his parents to buy a notebook computer. He plans to pay them back at the rate of \$60 per month. Ken is borrowing \$600 from his parents to purchase a snowboard. He plans to pay his parents back at the rate of \$20 per month.

12. _____

Write an equation that can be used to determine after how many months the boys will owe the same amount.

Determine algebraically and state in how many months the two boys will owe the same amount. State the amount they will owe at this time.

Ian claims that he will have his loan paid off 6 months after he and Ken owe the same amount. Determine and state if Ian is correct. Explain your reasoning.