TEST NAME: **ARMS Functions (COPY)**
TEST ID: **389776**
GRADE: **08 - Eighth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **District Benchmark**

Student: _____

Class: _____

Date: _____

1. Kevin earns $250 per week, plus a 5% commission on all the furniture he sells, *x*. Which equation represents Kevin's weekly income, *y*?

   A. $y = 255x$

   B. $y = 0.05 + 250x$

   C. $y = 0.05x + 250$

2. A veterinarian plans to put a dog on a diet plan for ten weeks so the dog's weight decreases by the same number of pounds per week. The table shows how much the dog should weigh at different times on the diet plan.

   Dog's Weight

Time on Diet Plan (weeks)	Dog's Weight (pounds)
2	91
4	87
6	83
10	75

   Based on the data in the table, what is the dog's initial weight in pounds?

   A. 99

   B. 97

   C. 95

   D. 93

3. The set of data in the table below represents a linear function.

x	y
⁻4	2
⁻2	2.5
0	3
2	3.5
4	4

Which is an equation for this function?

A. $y = 4x + 3$

B. $y = 2x + 3$

C. $y = 0.5x + 3$

D. $y = 0.25x + 3$

4. The set of data in the table below represents a linear function.

x	y
⁻6	$-7\frac{1}{3}$
⁻4	$-5\frac{1}{3}$
⁻2	$-3\frac{1}{3}$

Which is an equation for this function?

A. $y = x - 1\frac{1}{3}$

B. $y = x - 2$

C. $y = 2x - 1\frac{1}{3}$

D. $y = 2x - 2$

5. In 2007, the population of a town was approximately 35,250. In 2012, the population of the town had decreased to 28,200. Based on a linear model, what will be the **approximate** population of the town in 2014?

    A. 31,020

    B. 26,800

    C. 25,380

    D. 15,510

6. Which is an equation of a line with a slope of 5 and goes through the point (1, 4)?

    A. $y = \text{}^{-}x + 5$

    B. $y = 5x - 1$

    C. $y = 5x + 4$

7. Which is an equation of the line that passes through the points ($^{-}$4, $^{-}$4) and (4, $^{-}$8)?

    A.
    $$y = {}^{-}2x - 12$$

    B.
    $$y = \frac{{}^{-}1}{2}x - 6$$

    C.
    $$y = \frac{1}{2}x - 2$$

    D.
    $$y = 2x + 4$$

8. An electrician charges a flat rate for a service call, plus a per hour charge to do the work. The total bill for a job that took 6 hours was $450. The total bill for a job that took 4 hours was $330. How much does the electrician charge for a service call?

    A. $60

    B. $75

    C. $85

    D. $90

9. Which equation represents the data below?

x	y
⁻1	⁻3.7
0	⁻1.7
1	0.3
2	2.3
3	4.3
4	6.3

A. $y = {}^-2x - 1.7$

B. $y = {}^-2x + 1.7$

C. $y = 2x - 1.7$

D. $y = 2x + 1.7$

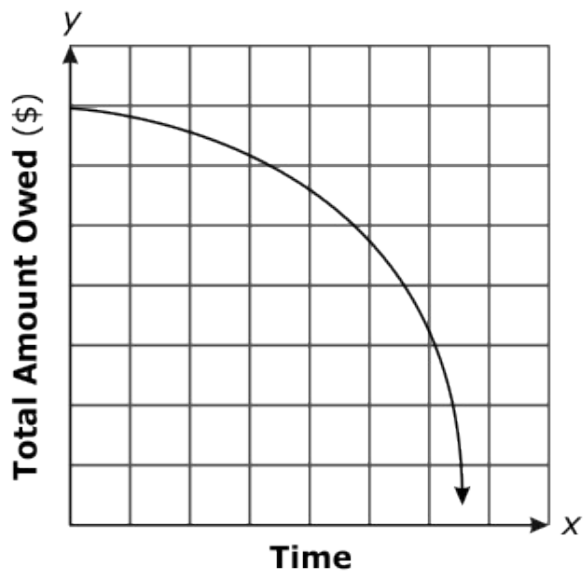10. Which is an equation of the relation shown in the table below?

r	s
⁻2	1
⁻1	2
0	3
1	4
2	5

A. $r = 3s$

B. $r = s + 3$

C. $s = 3r$

D. $s = r + 3$

11. Quintin bought a car from his uncle. He is making equal payments each month to pay for the car. Which graph **best** represents the relationship between time and the amount of money Quintin still owes?

A.
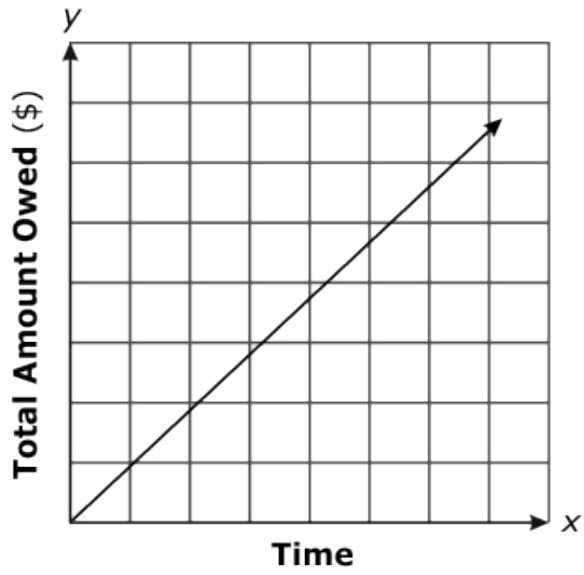
B.

C.
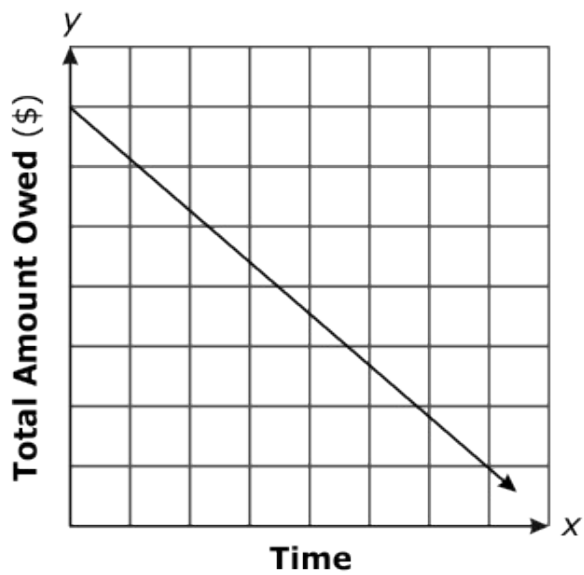
12. The graph below shows the distance a school bus is from school.
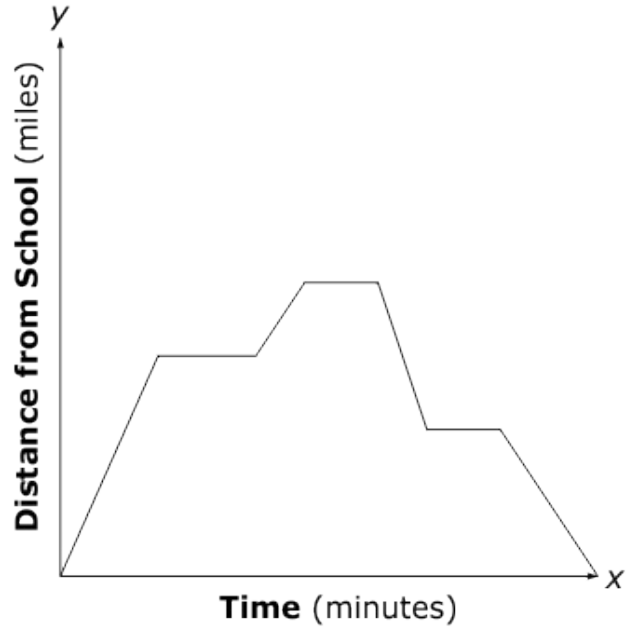
Which **best** describes what the bus is doing in the flat parts of the graph?

A. speeding up

B. slowing down

C. sitting still

D. returning to school

13. Which scenario **best** represents the graph below?
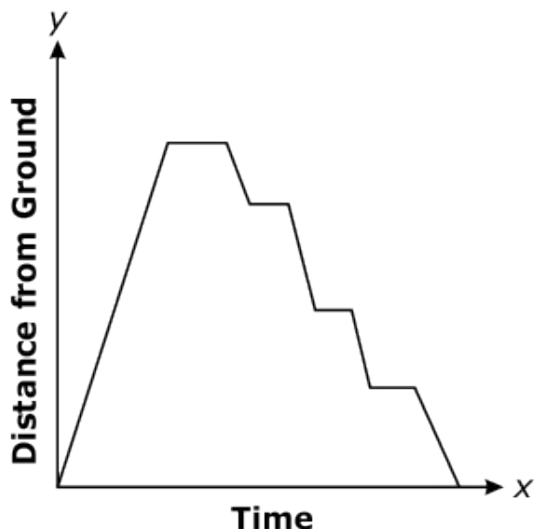
A. A person riding an elevator up, and then down.

B. A person riding an escalator up, and then riding another escalator down.

C. A ball being thrown in the air, hitting the ground, and then bouncing multiple times.

14. An airplane taxis from the terminal and takes off for a town. It travels at a constant speed before descending. The plane lands and taxis to the other terminal to allow passengers to exit the plane. Which graph below **best** represents this situation?
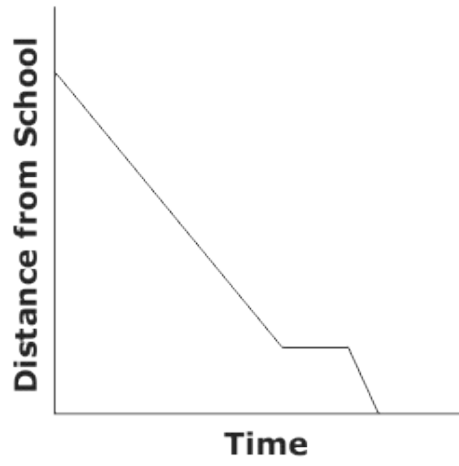
A.
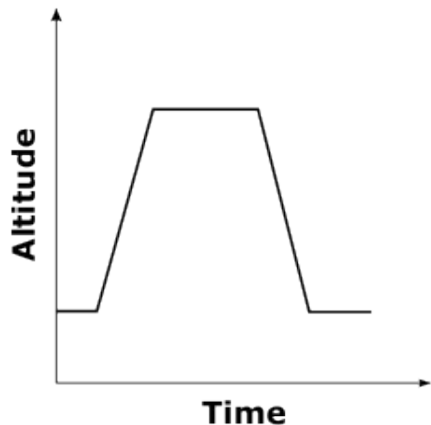
B.
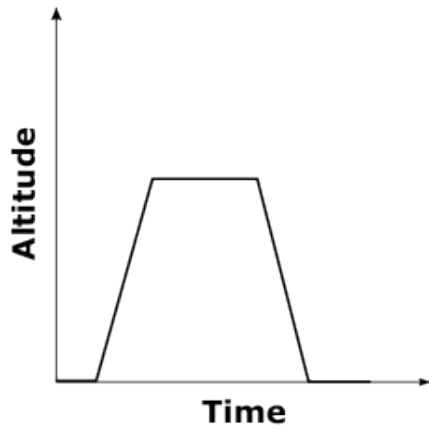
C.
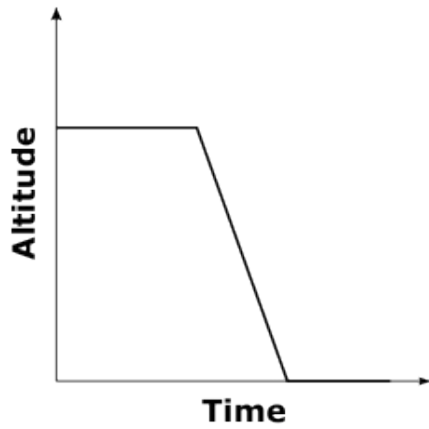
D.
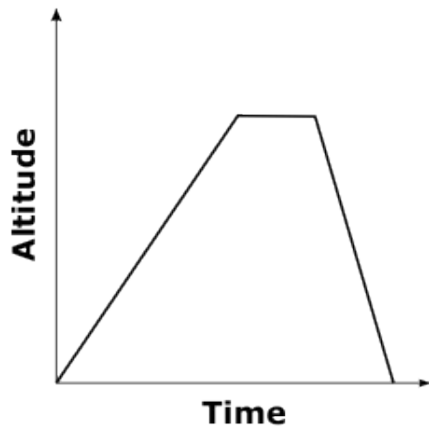
15. Roberto was walking home after school. He stopped half way between his home and school to visit his friend who was sick. He then left his friend and walked the rest of the way home. Which graph represents Roberto's walk home?
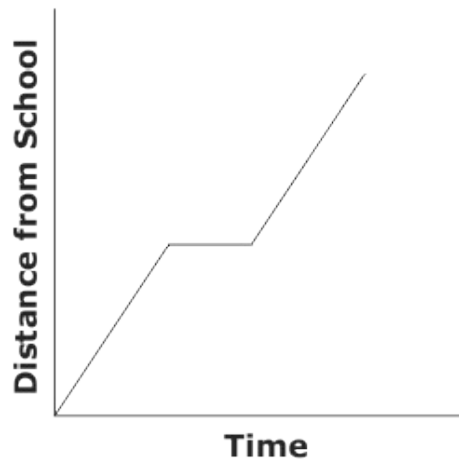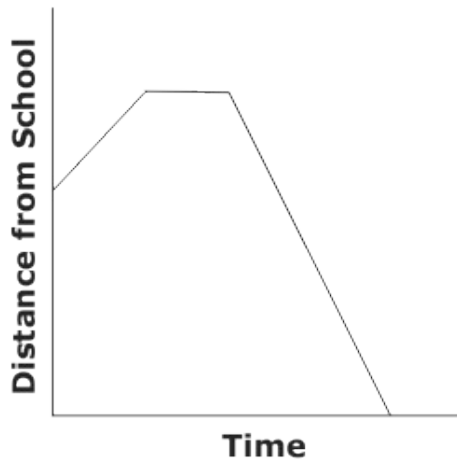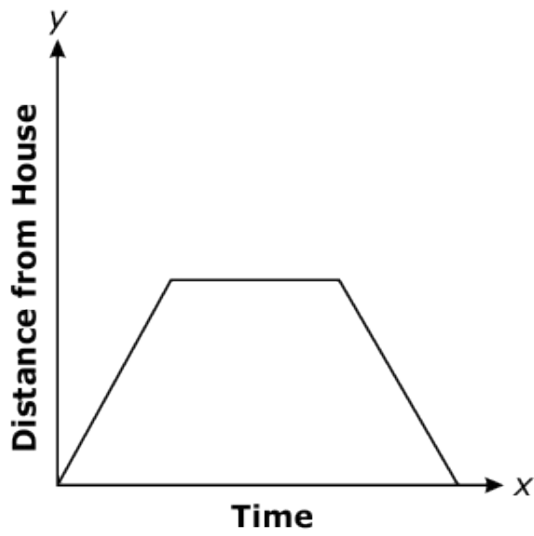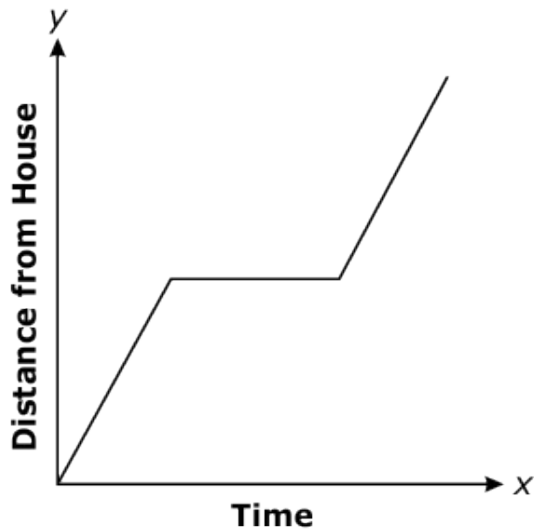
A.
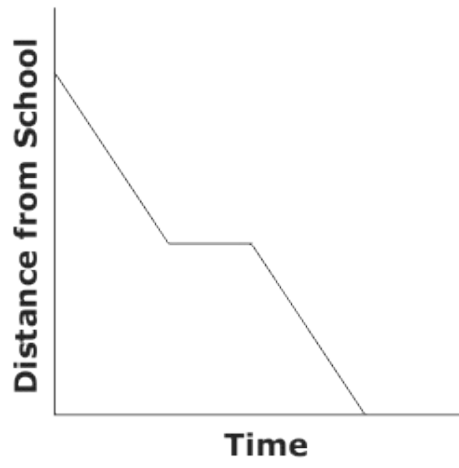
B.

C.

D.

16. Emily went to the beach for the day. Leaving her house, Emily drove to the beach, stayed there for a few hours, then drove home. Which graph **best** represents this scenario?
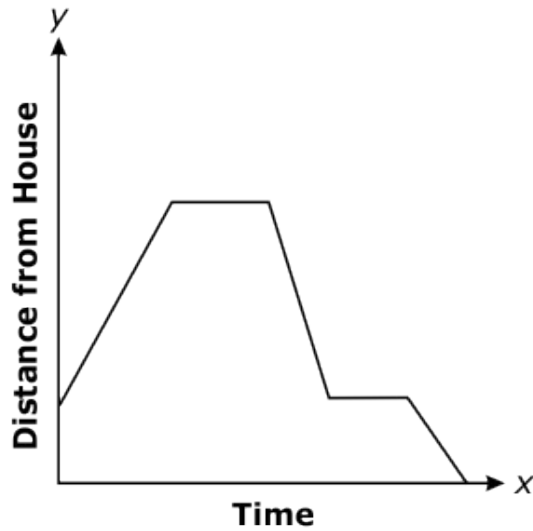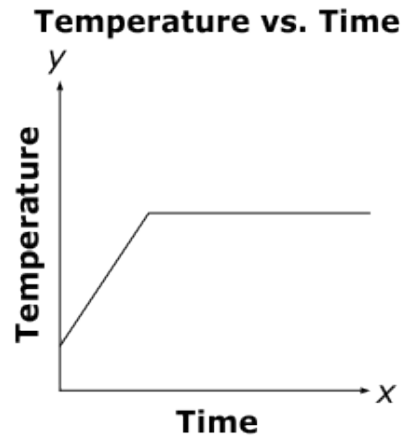
A.

B.

C.

17. The graph below represents temperature over a set amount of time.

Temperature vs. Time

Which scenario is *best* modeled on the graph?

A. A cake is taken out of a hot oven, placed on a table to cool, and then placed in the freezer.

B. A pie is taken out of the freezer, placed on a table to thaw, and then placed in a hot oven.

C. A cake is taken out of a hot oven and placed on a table to cool.

D. A pie is taken out of the freezer and placed on a table to thaw.

schoolnet

18. The graph below details Sally's daily trip to work.

Sally's Trip to Work
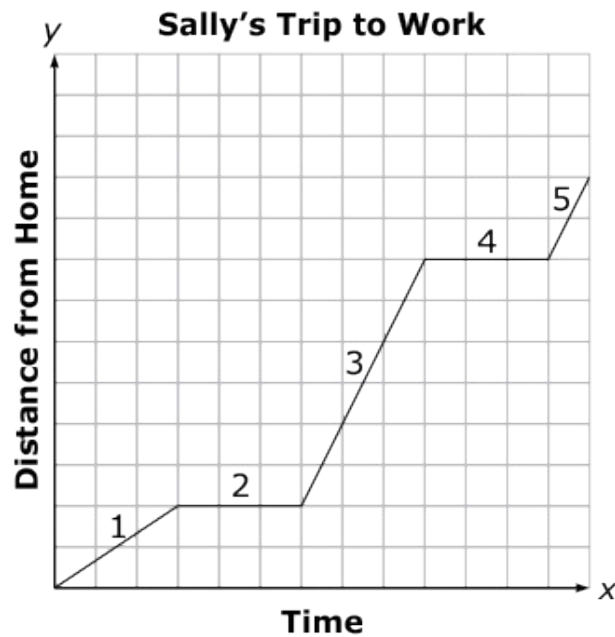

Which is the **best** scenario for part 3 on the graph?

A. Sally is waiting at a stop light.

B. Sally is driving on an incline at a constant rate.

C. Sally is driving on a highway at a constant rate.

D. Sally is speeding up then slowing down through a neighborhood.

19. Kevin was playing fetch with his dog in a field. Kevin threw a stick. The dog ran to get the stick, paused, and then brought it back to Kevin. Which graph **best** represents the dog's distance from Kevin for this event?
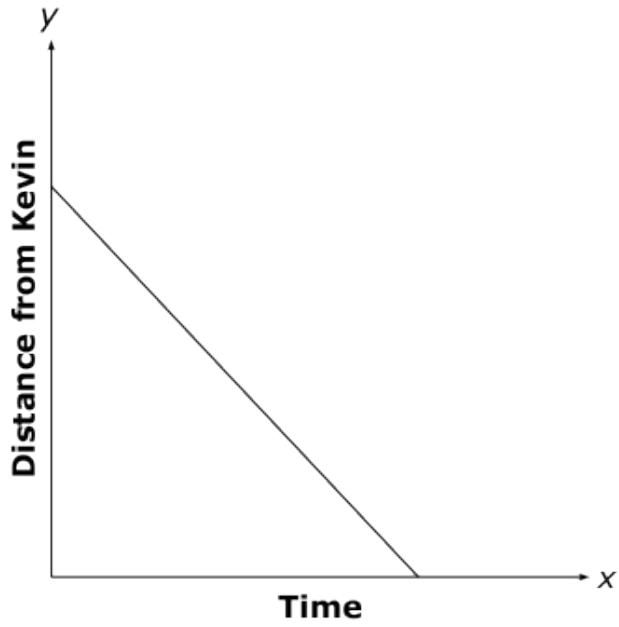
A.
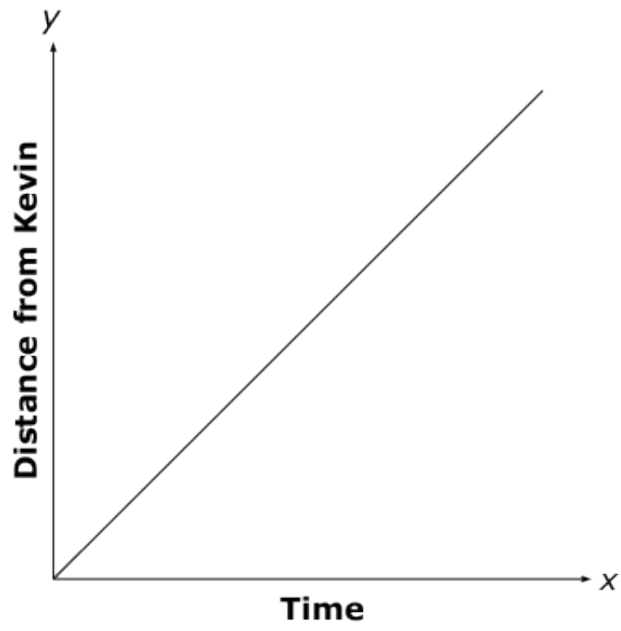
B.
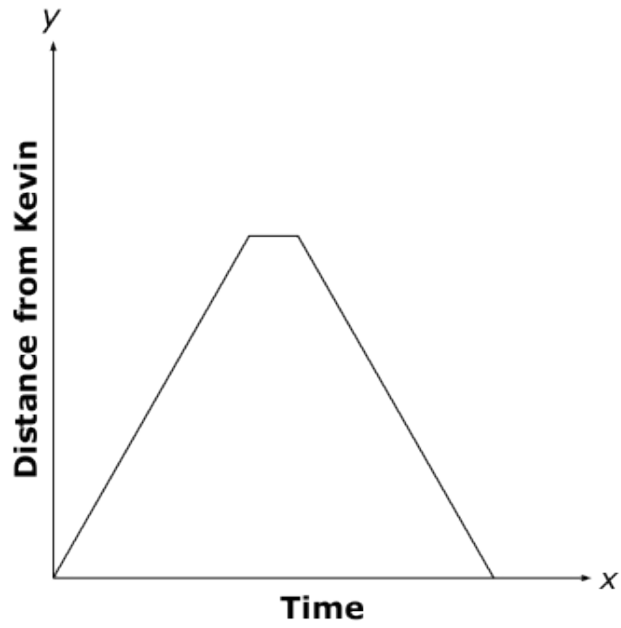
C.

20. Which graph **best** represents the height from the ground of a person who will jump out of an airplane, and then will release a parachute a few seconds later?

A.

B.

C.

D.