Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sect \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8th Grade PSSA Prep #1

1. Simplify 7-8 x 7-4
2. $\frac{1}{7^{12}}$
3. $\frac{1}{7^{4}}$
4. 712

D) 74

1. Which equation shows how to find the product of 1,000,000 and 1,000,000 using scientific notation?

A. 1,000,000 × 1,000,000 = (1 × 106) × (1 × 106) = 1 × 10(6 + 6) = 1 × 1012

B. 1,000,000 × 1,000,000 = (1 × 106) × (1 × 106) = 1 × 10(6 × 6) = 1 × 1036

C. 1,000,000 × 1,000,000 = (1 × 107) × (1 × 107) = 1 × 10(7 + 7) = 1 × 1014

D. 1,000,000 × 1,000,000 = (1 × 107) × (1 × 107) = 1 × 10(7 × 7) = 1 × 1049

4. A cleaning company charges x dollars per hour to clean floors and y dollars per hour to clean the rest of a house.

When the company spends 2 hours to clean floors and 3 hours to clean the rest of a house, the total charge is $84.

When the company spends 1 hour to clean floors and 4 hours to clean the rest of a house, the total charge is $87.

Which ordered pair represents the hourly charges to clean floors and to clean the rest of the

house?

A. (12, 20)

B. (15, 18)

C. (18, 15)

D. (20, 12)

1. Two linear functions of x are shown below.

Function 1

y = 30x + 19

Function 2

|  |  |
| --- | --- |
| **x**  | **y**  |
| –12  | –311  |
| –8  | –211  |
| –3  | –86  |
| 1  | 14  |
|  |  |

Which statement about the functions is true?

A. Function 2 can be described by the equation y = 35x – 109.

B. Function 2 can be described by the equation y = 100x – 11.

C. The y-intercept of function 1 is less than the y-intercept of function 2.

D. The rate of change of function 1 is greater than the rate of change of function 2.

8. Luis is building a new deck and needs to have a slab of concrete poured. He knows the

contractor charges an initial cost of $75 plus an additional $2.50 per square foot of concrete. Which equation can be used to determine the cost (y), in dollars, to pour a concrete slab with an area of x square feet?

A. y = 2.5x + 75

B. y = 7.5x + 2.5

C. y = 75x + 2.5

D. y = 77.5x

13. Part of a sculpture is a stone sphere with a volume of 36π cubic feet. What is the radius, in feet, of the stone sphere?

A. 3

B. 6

C. 9

D. 12

1. Blake interviewed 24 students to see whether they collected sports cards and whether they participated in sports.The table below shows his data.

Sports-Card Collecting and Sports Participation

|  |  |
| --- | --- |
|  **Participates in Sports** | **Does not Participate in Sports**  |
| Collects Sports Cards  | 6  | 3  |
| Does Not Collect Sports Cards  | x  | 7  |

How many of the students Blake interviewed participate in sports?

A. 4

B. 10

C. 14

D. 15