

#1

ID: 954943a4

Jennifer bought a box of Crunchy Grain cereal. The nutrition facts on the box state that a serving size of the cereal is  $\frac{3}{4}$  cup and provides 210 calories, 50 of which are calories from fat. In addition, each serving of the cereal provides 180 milligrams of potassium, which is 5% of the daily allowance for adults. If  $p$  percent of an adult's daily allowance of potassium is provided by  $x$  servings of Crunchy Grain cereal per day, which of the following expresses  $p$  in terms of  $x$  ?

- A)  $p = 0.5x$
- B)  $p = 5x$
- C)  $p = (0.05)^x$
- D)  $p = (1.05)^x$

#2

ID: 1baffbcf

The expression  $0.35x$  represents the result of decreasing a positive quantity  $x$  by what percent?

- A) 3.5%
- B) 35%
- C) 6.5%
- D) 65%

#3

ID: 65c49824

A school district is forming a committee to discuss plans for the construction of a new high school. Of those invited to join the committee, 15% are parents of students, 45% are teachers from the current high school, 25% are school and district administrators, and the remaining 6 individuals are students. How many more teachers were invited to join the committee than school and district administrators?

#4

ID: 4aaa9c42

The positive number  $a$  is 2,241% of the sum of the positive numbers  $b$  and  $c$ , and  $b$  is 83% of  $c$ . What percent of  $b$  is  $a$  ?

- A) 23.24%
- B) 49.41%
- C) 2,324%
- D) 4,941%

#5

ID: 0ea56bb2

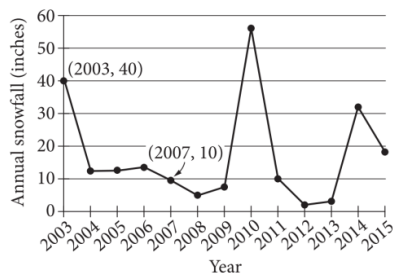
| Year | Subscriptions sold |
|------|--------------------|
| 2012 | 5,600              |
| 2013 | 5,880              |

The manager of an online news service received the report above on the number of subscriptions sold by the service. The manager estimated that the percent increase from 2012 to 2013 would be double the percent increase from 2013 to 2014. How many subscriptions did the manager expect would be sold in 2014?

- A) 6,020
- B) 6,027
- C) 6,440
- D) 6,468

#6

ID: 0231050d



The line graph shows the total amount of snow, in inches, recorded each year in Washington, DC, from 2003 to 2015. If  $p\%$  is the percent decrease in the annual snowfall from 2003 to 2007, what is the value of  $p$ ?

#7

ID: 993000da

The positive number  $a$  is  $230\%$  of the number  $b$ , and  $a$  is  $60\%$  of the number  $c$ . If  $c$  is  $p\%$  of  $b$ , which of the following is closest to the value of  $p$ ?

- A) 138
- B) 217
- C) 283
- D) 383

#8

ID: 1fbd3b67

The number  $a$  is  $190\%$  greater than the number  $b$ . The number  $b$  is  $80\%$  less than 24. What is the value of  $a$ ?

- A) 9.12
- B) 13.92
- C) 26.40
- D) 36.48

#9

ID: e635aede

In 2008, Zinah earned  $14\%$  more than in 2007, and in 2009 Zinah earned  $4\%$  more than in 2008. If Zinah earned  $y$  times as much in 2009 as in 2007, what is the value of  $y$ ?

- A) 0.5600
- B) 1.0056
- C) 1.1800
- D) 1.1856

#10

ID: 67c0200a

The number  $a$  is 70% less than the positive number  $b$ .  
The number  $c$  is 80% greater than  $a$ . The number  $c$  is how many times  $b$ ?

#11

ID: 40e7a1a9

210 is  $p\%$  greater than 30. What is the value of  $p$ ?

#12

ID: 5267c3c7

The result of increasing the quantity  $x$  by 400% is 60.  
What is the value of  $x$ ?

- A) 12
- B) 15
- C) 240
- D) 340

#13

ID: 55818046

According to the 2010 Census, the adult population aged 18 years or greater of the United States in 2010 was 234,564,071. In 2010, a survey was conducted among a randomly chosen sample of adults aged 18 years or greater in the United States about their preference to live in a warm climate or a cool climate. The table below displays a summary of the survey results.

Climate Preferences

|                           | Warm | Cool | No preference | Total |
|---------------------------|------|------|---------------|-------|
| 18–35 years old           | 295  | 168  | 45            | 508   |
| 36–50 years old           | 246  | 123  | 41            | 410   |
| 51–65 years old           | 238  | 117  | 48            | 403   |
| Greater than 65 years old | 137  | 78   | 64            | 279   |
| Total                     | 916  | 486  | 198           | 1,600 |

Which of the following is closest to the difference between the percentage of adults aged 18–50 years who responded “warm” and the percentage of adults aged 51 years or greater who responded “warm”?

- A) 4%
- B) 5%
- C) 10%
- D) 18%

#14

ID: 20845d36

The number  $a$  is 70% less than the positive number  $b$ .  
The number  $c$  is 60% greater than  $a$ . The number  $c$  is how many times  $b$ ?

#15

ID: 86684ce9

The result of increasing the quantity  $x$  by  $1,800\%$  is  $684$ . What is the value of  $x$ ?

- A) 12,996
- B) 12,312
- C) 38
- D) 36

#16

ID: 2afd3cec

After  $20\%$  of the original number of marbles in a group were removed from the group,  $360$  marbles remained in the group. How many marbles were removed from the group?

- A) 72
- B) 90
- C) 450
- D) 1,800

#17

ID: 2e92cc21

The number  $a$  is  $110\%$  greater than the number  $b$ . The number  $b$  is  $90\%$  less than  $47$ . What is the value of  $a$ ?

#18

ID: ba0e23b0

$140$  is  $p\%$  greater than  $10$ . What is the value of  $p$ ?

- A) 1,400
- B) 1,300
- C) 140
- D) 130

#19

ID: 8c5dbd3e

The number  $w$  is  $110\%$  greater than the number  $z$ . The number  $z$  is  $55\%$  less than  $50$ . What is the value of  $w$ ?

#20

ID: 54cb53cf

The number of zebras in a population in 2018 was  $1.27$  times the number of zebras in this population in 2014. If the number of zebras in this population in 2014 is  $p\%$  of the number of zebras in this population in 2018, what is the value of  $p$ , to the nearest whole number?

#21

ID: 3d73a58b

A gift shop buys souvenirs at a wholesale price of  $7.00$  dollars each and resells them each at a retail price that is  $290\%$  of the wholesale price. At the end of the season, any remaining souvenirs are marked at a discounted price that is  $80\%$  off the retail price. What is the discounted price of each remaining souvenir, in dollars?

#22

ID: a0b165f8

A scientist studying the life cycle of dragonflies counted the number of dragonflies in a certain habitat each day for 46 days. On February 15, there were 99 dragonflies in the habitat. The percent increase in the number of dragonflies in the habitat from January 1 to February 15 was 12.50%. How many dragonflies were in the habitat on January 1?

- A) 88
- B) 87
- C) 12
- D) 8

#23

ID: 040f2a84

The regular price of a shirt at a store is \$ 11.70. The sale price of the shirt is 80% less than the regular price, and the sale price is 30% greater than the store's cost for the shirt. What was the store's cost, in dollars, for the shirt? (Disregard the \$ sign when entering your answer. For example, if your answer is \$ 4.97, enter 4.97)

#24

ID: 8213b1b3

According to a set of standards, a certain type of substance can contain a maximum of 0.001% phosphorus by mass. If a sample of this substance has a mass of 140 grams, what is the maximum mass, in grams, of phosphorus the sample can contain to meet these standards?

#25

ID: 34f8cd89

37% of the items in a box are green. Of those, 37% are also rectangular. Of the green rectangular items, 42% are also metal. Which of the following is closest to the percentage of the items in the box that are not rectangular green metal items?

- A) 1.16%
- B) 57.50%
- C) 94.25%
- D) 98.84%

#26

ID: 25faa756

The number  $a$  is 60% greater than the positive number  $b$ . The number  $c$  is 45% less than  $a$ . The number  $c$  is how many times  $b$ ?

#27

ID: ad911622

The value of a collectible comic book increased by 167% from the end of 2011 to the end of 2012 and then decreased by 16% from the end of 2012 to the end of 2013. What was the net percentage increase in the value of the collectible comic book from the end of 2011 to the end of 2013?

- A) 124.28%
- B) 140.28%
- C) 151.00%
- D) 209.72%