BCCTM 2021 Math Competition: Grade 4 Solutions

How many positive prime numbers have a five in the one's place?

- ○ 0
- ○ 1
- ○ 5
- ○ 25
- ○ None of these

Answer: 1

The winner of the Boston Marathon ran the race twice as fast as Miguel. If Miguel ran the race in 7 hours and 10 minutes, how fast did the winner run?

- ○ 3 hours 5 minutes
- ○ 3 hours 35 minutes
- ○ 3 hours 40 minutes
- ○ 14 hours 20 minutes
- ○ None of these

Answer: 3 hours 35 minutes

Damien had 5 quarters in his pocket. Danika had only dimes and pennies in her pocket, but the value of her coins is the same as Damien's. What is the least number of coins Danika can have in her pocket?

- ○ 13
- ○ 15
- ○ 17
- ○ 35
- ○ None of these

Answer: 17

How many months in a non-leap year have a prime number for the number of days in the month?

- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ None of these

Answer: 7

The sum of Tim, Tina, and Tammy's ages is 25. What will the sum of their ages be in 6 years?

- ○ 31
- ○ 37
- ○ 43
- ○ 49
- ○ None of these

Answer: 43

A round table has chairs that are numbered consecutively 1, 2, 3,... Pablo is sitting on chair number 11, directly across from Julianne, who is sitting on chair number 4. How many chairs are there at the table?

- ○ 13
- ○ 14
- ○ 16
- ○ 17
- ○ None of these

Answer: 14

There are 60 chickens on the farm. Each chicken eats 2 pounds of grain every 30 days. How much grain do the chickens eat every day?

- ○ 1 pound
- ○ 2 pounds
- ○ 3 pounds
- ○ 4 pounds
- ○ None of these

Answer: 4 pounds

Which of the following numbers has exactly three positive factors?

- ○ 3
- ○ 6
- ○ 7
- ○ 8
- ○ None of these

Answer: None of these

Juan is 3 inches taller than Jillian and 2 inches shorter than Janet. Janet is _____ than Jillian?

- ○ 1 inch shorter
- ○ 1 inch taller
- ○ 5 inches shorter
- ○ 5 inches taller
- ○ None of these

Answer: 5 inches taller

Donald's dad sleeps one-quarter of the day. Donald sleeps one and a half times as long as his dad. What fraction of the day does Donald spend sleeping?

- ○ 1/6
- ○ 1/2
- ○ 1/8
- ○ 3/8
- ○ None of these

Answer: 3/8

Molly was selling raffle tickets for her soccer team. On Wednesday she sold 60 tickets. On Thursday, she sold 96 tickets and noticed that each day's total ticket sales was the sum of the previous two days. How many tickets did Molly sell on Monday?

- ○ 20
- ○ 24
- ○ 36
- ○ 48
- ○ None of these

Answer: 24

5 + (5 x 5) - (5/5) =

- ○ 9
- ○ 23
- ○ 25
- ○ 29
- ○ None of these

Answer: 29

What is the product of the first three positive prime numbers?

- ○ 6
- ○ 30
- ○ 210
- ○ 300
- ○ None of these

Answer: 30

Erosion causes a dirt mound to lose 4 cm of height each year. If the mound was 2 m tall in 2010, how tall will it be in 2025?

- ○ 140 cm
- ○ 100 cm
- ○ 60 cm
- ○ 40 cm
- ○ None of these

Answer: 140 cm

A bag contains 2 yellow, 2 purple, and 2 blue tiles. If Shannon takes out one tile at a time, what is the least number she must take to be sure she has two tiles of the same color?

- ○ 2
- ○ 3
- ○ 4
- ○ 6
- ○ None of these

Answer: 4

Which is largest?

- ○ 5/8
- ○ 6/12
- ○ 34/71
- ○ 4/9
- ○ None of these

Answer: 5/8

On Monday I rode my bike for one mile. Each day I rode twice as far as the day before. What is the first day that I rode for more than 20 miles?

- ○ Saturday
- ○ Sunday
- ○ Monday
- ○ Friday
- ○ None of these

Answer: Saturday

At a theme park, the roller coaster can give 16 people a ride every three minutes. The swings gives 9 people a ride every two minutes. At this rate, how many more people can ride the roller coaster than the swings in 6 minutes?

- ○ 5
- ○ 15
- ○ 25
- ○ 27
- ○ None of these

Answer: 5

A square has a perimeter of 32 inches. I drew an equilateral triangle on one side of the square. What is the perimeter of the new shape?

- ○ 40 inches
- ○ 48 inches
- ○ 56 inches
- ○ 64 inches
- ○ None of these

Answer: 40 inches

Five years ago Sam was five years younger than Sally. If Sam is 21 years old now, how old will Sally be in five years?

- ○ 16
- ○ 26
- ○ 31
- ○ 36
- ○ None of these

Answer: 31

A rectangle has perimeter 28 cm and area 45 sq. cm. Its dimensions, in centimeters, are

- ○ 1 and 28
- ○ 3 and 15
- ○ 5 and 9
- ○ 3 and 11
- ○ None of these

Answer: 5 and 9

If 18 people shared a bag of cherries, each person would get 12 cherries. If there were six fewer people, how many cherries would they have gotten?

- ○ 6
- ○ 9
- ○ 18
- ○ 36
- ○ None of these

Answer: 18

If you multiply a whole number by itself, the one's digit cannot be which of the following?

- ○ 0
- ○ 5
- ○ 6
- ○ 7
- ○ None of these

Answer: 7

When I divide two numbers by 7, the respective remainders are 2 and 4. The product of the two numbers could be

- ○ 148
- ○ 147
- ○ 146
- ○ 145
- ○ None of these

Answer: 148

A square sheet of paper is cut along a straight line into two pieces. Neither of the two pieces could be a _____.

- ○ pentagon
- ○ triangle
- ○ rectangle
- ○ square
- ○ None of these

Answer: square

How many different 3-digit whole numbers have all of the numbers 1, 2, and 3 as their digits?

- ○ 3
- ○ 6
- ○ 9
- ○ 12
- ○ None of these

Answer: 6

Which of the following numbers is closest in value to 1?

- ○ 0.99
- ○ 1.1
- ○ 1.011
- ○ 1.009
- ○ None of these

Answer: 1.009

A square is divided into four smaller squares. If the perimeter of each of the smaller squares is 8, what is the area of the larger square?

- ○ 8
- ○ 12
- ○ 16
- ○ 20
- ○ None of these

Answer: 16

You are making an ice cream sundae. You can choose vanilla, chocolate or strawberry ice cream. Toppings include chocolate syrup, sprinkles, or whipped cream. How many choices are there with one flavor of ice cream and one topping?

- ○ 9
- ○ 10
- ○ 11
- ○ 12
- ○ None of these

Answer: 9

In order to make the expression A x A = 2 x 2 x 3 x 3 true, we need to replace A with:

- ○ 2
- ○ 3
- ○ 2 x 3
- ○ 2 x 2
- ○ None of these

Answer: 2 x 3