The Rest of the Story Drill

Question 1 of 15

All but 4 of the counselors on staff at a certain summer camp have sailing certification, first aid certification, or both. Twice as many counselors have neither certification as have both certifications, and 7 counselors have sailing certification. If there are a total of 22 counselors on staff, then how many of the counselors have first aid certification?

Question 2 of 15

What is the value of $\frac{8!}{10!}$?

- ○ $\frac{4!}{5!}$
- ○ $\frac{1}{2!}$
- ○ $9!$
- ○ $\frac{1}{5(6!)}$
- ○ $\frac{1}{15(3!)}$

Question 3 of 15

If set $X = \{12, 16, 20\}$, then which of the following sets has a standard deviation greater than that of set X ?

- ○ $\{2, 4, 6\}$
- ○ $\{4, 5, 6\}$
- ○ $\{13, 16, 19\}$
- ○ $\{20, 32, 44\}$
- ○ $\{95, 100, 105\}$

Question 4 of 15

Ryan's bakery has 212 cakes to sell. 131 cakes are chocolate and the rest are vanilla while 104 cakes have mocha frosting, and the rest have coconut frosting. If 37 of the chocolate cakes have mocha frosting, how many of the vanilla cakes have coconut frosting?

- ○ 14
- ○ 67
- ○ 81
- ○ 104
- ○ 108

Question 5 of 15

If a value for the integer x is randomly selected and $-10 < x < 10$, what is the probability that x is even?

- ○ $\frac{1}{19}$
- ○ $\frac{1}{4}$
- ○ $\frac{1}{2}$
- ○ $\frac{9}{19}$
- ○ $\frac{11}{21}$

Question 6 of 15

Which of the following is the least value of x for which $\frac{x!}{6!}$ is an integer greater than 1 ?

- ○ 2
- ○ 3
- ○ 6
- ○ 7
- ○ 12

Question 7 of 15

The purchaser of a certain car must choose 2 of 5 special options and 5 of 6 interior features. How many different combinations of options and features are available to the purchaser?

- ○ 10
- ○ 16
- ○ 18
- ○ 30
- ○ 60

Question 8 of 15

Laura has decided to display 5 of her glass animal figurines on a shelf. If she has 6 circus animals and 5 farm animals from which to choose, and she wants a farm animal in the middle of the display, then how many arrangements of the figurines are possible?

- ○ 30
- ○ 150
- ○ 3,024
- ○ 25,200
- ○ 30,240

Question 9 of 15

Two six-sided dice with sides numbered 1 through 6 are rolled. If the two resulting numbers are multiplied, what is the probability that their product will be even?

- ○ $\frac{1}{12}$
- ○ $\frac{1}{4}$
- ○ $\frac{1}{2}$
- ○ $\frac{3}{4}$
- ○ $\frac{11}{12}$

Question 10 of 15

Sandy is designing an internet banner advertisement and has decided to use one background, one font, two different accent images, and four different colors. If Sandy has 5 backgrounds, 4 fonts, 6 accent images, and 12 colors from which to choose, then how many different banners can she make?

Question 11 of 15

The Outdoor Adventure Camp offers 1-week sessions. During the first week, 44 campers go fishing, 33 go orienteering, and 37 do neither activity. The same number of campers goes orienteering in week 2 as in week 1, and 15 campers in week 2 do both activities. If 49 of the 120 campers who attend week 2 do neither activity, and twice as many campers attend week 1 as go fishing in week 2, then how many total campers attended these 2 weeks?

- ○ 196
- ○ 226
- ○ 234
- ○ 360
- ○ 662

Question 12 of 15

During this year's fundraiser, students who sell at least 75 subscriptions will win a prize. The fourth-grade students sold an average of 47 magazine subscriptions per student, and the sales have a standard deviation of 14. If the sales of subscriptions are normally distributed, then what percent of the fourth-grade students will receive a prize?

- ○ 0.02
- ○ 0.25
- ○ 2
- ○ 25
- ○ It cannot be determined from the information given

Question 13 of 15

A college admissions committee must select candidates for a certain program from among high school applicants and transfer applicants. The committee has already chosen 132 female candidates in a 3 to 1 ratio of high school students to transfer students, and will maintain this ratio in the selection of male candidates. If the final class size must be between 325 and 350 students, then which of the following is an acceptable number of male high school applicants for the committee to choose?

Indicate <u>all</u> such values.

- ☐ 99
- ☐ 144
- ☐ 156
- ☐ 162
- ☐ 168
- ☐ 180

Question 14 of 15

Robin and Terry want to invite 5 of their friends to their wedding. Robin has 7 friends, Terry has 6, and Robin and Terry have no friends in common. If at least 1 of Robin's friends and at least 1 of Terry's friends must be invited, how many different groups of friends could Robin and Terry invite to their wedding?

- ○ 462
- ○ 924
- ○ 1,260
- ○ 2,520
- ○ 151,200

Question 15 of 15

Tony's political science final exam consists exclusively of 8 true/false questions. If Tony guesses on every question, what is the probability that he gets exactly 7 questions right?

- ○ $\frac{1}{32}$
- ○ $\frac{1}{16}$
- ○ $\frac{1}{8}$
- ○ $\frac{7}{8}$
- ○ $\frac{31}{32}$