Level M - Form 1 - Applied Mathematics: Statistics and Probability

Kelly rolls a six-sided die labeled 1 through 6. What is the probability that she will roll a 5?

A $\frac{1}{5}$

B $\frac{1}{2}$

C $\frac{1}{6}$

D $\frac{5}{6}$

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Rosa has a box full of small tubes of paint: 3 red tubes, 4 blue tubes, 5 green tubes, 1 yellow tube, and 3 black tubes. Use this information to do Numbers 1 through 3.

1. Rosa reaches into the box and grabs a tube of paint without looking. What is the probability that she picked a blue tube of paint?

    A $\frac{1}{4}$

    B $\frac{5}{16}$

    C $\frac{1}{16}$

    D $\frac{1}{5}$

2. Rosa randomly chooses a tube of paint from the box. Which of these statements is true?

    F Rosa is equally likely to choose a blue or black tube of paint.

    G Of all the colors, green is most likely to be chosen.

    H It is impossible for Rosa to pick a yellow tube of paint.

    J It is certain that Rosa will pick a tube of paint that is **not** black.

3. Rosa takes a black tube and a blue tube of paint out of the box. She keeps them out and then randomly chooses a third tube of paint. What is the probability that the third tube of paint is red?

    A $\frac{1}{5}$

    B $\frac{3}{14}$

    C $\frac{3}{16}$

    D $\frac{5}{8}$

4. A family of five went to an amusement park. The total price of admission was $155. What was the average price per person?

    F $30

    G $31

    H $11

    J $35

The table shows the ages of the students on a gymnastics team. Study the table. Then do Numbers 5 through 8.

Ages of Gymnasts on Team

12	13	13	15	10	11	11	11	10	9

5. What is the range of ages of the gymnasts?

    A 10

    B 11

    C 6

    D 15

6. What is the median age of the gymnasts?

    F 10

    G 11

    H 11.5

    J 10.5

7. What is the mode of the ages?

    A 9

    B 15

    C 10

    D 11

8. What is the average age of the gymnasts?

    F 11

    G 11.5

    H 10.5

    J 10

Peter places five different CDs into his CD player. Each CD contains the same number of songs but a different music style. Use this information to do Numbers 9 through 11.

9. Peter sets the CD player to random. What is the chance that the first song will **not** be a country song?

    A $\frac{1}{5}$

    B $\frac{1}{4}$

    C $\frac{3}{5}$

    D $\frac{4}{5}$
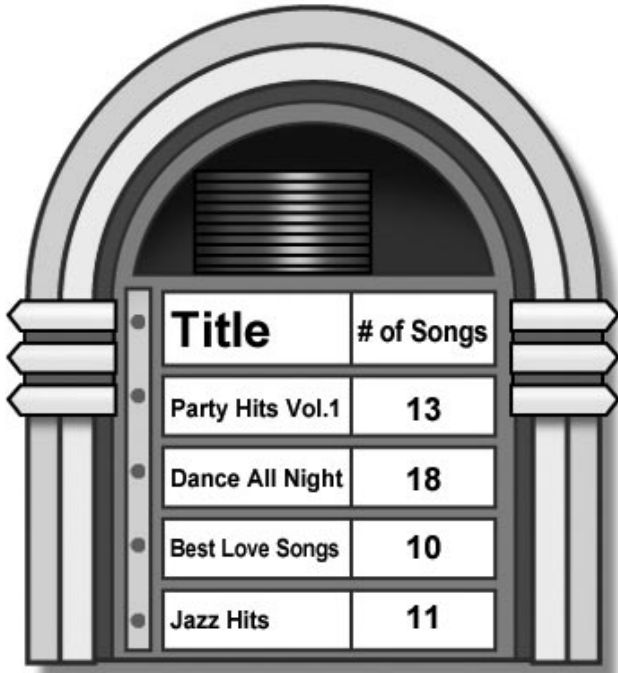
10. What is the chance of the first song being a dance or reggae song?

    F $\frac{1}{5}$

    G $\frac{2}{5}$

    H $\frac{3}{5}$

    J $\frac{2}{3}$

11. Peter changes the classic CD to a dance CD. He resets the player to random. Which of these statements is true?

    A It is certain that the next song will be a dance song.

    B A dance and reggae song are now equally likely to be played.

    C The probability that the next song is a dance song is 1 out of 2.

    D A dance song is most likely to be the next song played.

12. The table lists four CDs from Peter's collection. What is the average number of songs on these CDs?

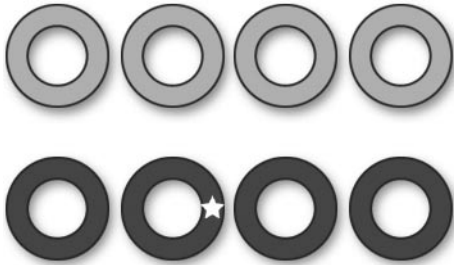| Title	# of Songs
Party Hits Vol.1	13
Dance All Night	18
Best Love Songs	10
Jazz Hits	11

F 12

G 13

H 8

J 11

13. Sharon saved to buy a new computer by putting an equal amount of money into her savings account each month for five months. The total cost of the computer was $855.00. How much did Sharon save each month to buy the computer?

A $171

B $107

C $211

D $285

The Alvarez family is playing a pool game using four light-colored rings and four dark rings. One of the dark rings has a white star on it. Use this information to do Numbers 14 through 16.

14. Mr. Alvarez tosses the rings into the pool and they sink to the bottom. Carlos dives in and randomly grabs a ring. What is the chance that he grabs a light-colored ring?

F $\frac{1}{4}$

G $\frac{1}{8}$

H $\frac{1}{2}$

J 1

15. If all the rings are in the pool, what is the probability that Carlos will randomly grab the ring with a star?

A $\frac{1}{8}$

B $\frac{1}{7}$

C $\frac{1}{4}$

D $\frac{1}{2}$

16. Carlos grabs a light ring and sets it on the deck. Then Selena dives in and randomly grabs a ring. Which of these statements is true?

F It is equally likely that Selena will grab a light or a dark ring.

G The probability of Selena grabbing a light ring with a star is 0.

H It is likely that Selena will grab a dark ring with a star.

J The probability of Selena grabbing a light ring is 4 out of 4.

The chart shows the daily high and low temperatures for a week. Study the chart. Then do Numbers 17 through 19.

	Sun	Mon	Tues	Wed	Thu	Fri	Sat
High (°F)	84	88	86	95	86	80	76
Low (°F)	63	66	68	66	65	59	57

17. What was the average high temperature for the week?

   A 80°F

   B 85°F

   C 95°F

   D 86°F

18. What is the mode of the low temperatures?

   F 69°F

   G 69°F

   H 65°F

   J 66°F

19. What is the range of the low temperatures?

   A 23°

   B 21°

   C 19°

   D 11°

20. A bag contains ten jelly beans: 3 red, 2 black, and 5 yellow. Without looking, Carmen reaches into the bag and grabs a jelly bean. What is the probability that Carmen will pick a red jelly bean?

   F $\dfrac{1}{3}$

   G $\dfrac{3}{7}$

   H $\dfrac{1}{10}$

   J $\dfrac{3}{10}$