NAME:_____

1. 060630a, P.I. A.S.20
Which inequality represents the probability, x, of any event happening?

[A] $0 \le x \le 1$ [B] $x < 1$

[C] $0 < x < 1$ [D] $x \ge 0$

2. 010811a, P.I. A.S.22
Which event has a probability of zero?

[A] choosing a pair of parallel lines that have unequal slopes

[B] choosing a number that is greater than 6 and is even

[C] choosing a triangle that is both isosceles and right

[D] choosing a letter from the alphabet that has line symmetry

3. 069901a, P.I. A.S.20
A fair coin is thrown in the air four times. If the coin lands with the head up on the first three tosses, what is the probability that the coin will land with the head up on the fourth toss?

[A] $\frac{1}{2}$ [B] $\frac{1}{8}$ [C] $\frac{1}{16}$ [D] 0

4. 010209a, P.I. A.S.20
A fair coin is tossed three times. What is the probability that the coin will land tails up on the second toss?

[A] $\frac{1}{3}$ [B] $\frac{2}{3}$ [C] $\frac{1}{2}$ [D] $\frac{3}{4}$

5. 060712a, P.I. A.S.20
When a fair coin was tossed ten times, it landed heads up the first seven times. What is the probability that on the eighth toss the coin will land with tails up?

[A] $\frac{1}{2}$ [B] $\frac{3}{7}$ [C] $\frac{7}{10}$ [D] $\frac{3}{10}$

6. 010709a, P.I. A.S.20
Seth tossed a fair coin five times and got five heads. The probability that the next toss will be a tail is

[A] 0 [B] $\frac{1}{6}$ [C] $\frac{1}{2}$ [D] $\frac{5}{6}$

7. 010832a, P.I. A.S.20
As captain of his football team, Jamal gets to call heads or tails for the toss of a fair coin at the beginning of each game. At the last three games, the coin has landed with heads up. What is the probability that the coin will land with heads up at the next game? Explain your answer.

NAME:_____

8. 060415a, P.I. A.S.20
Mary chooses an integer at random from 1 to 6. What is the probability that the integer she chooses is a prime number?

[A] $\frac{2}{6}$ [B] $\frac{5}{6}$ [C] $\frac{3}{6}$ [D] $\frac{4}{6}$

9. 080011a, P.I. A.S.20
A box contains six black balls and four white balls. What is the probability of selecting a black ball at random from the box?

[A] $\frac{1}{10}$ [B] $\frac{6}{10}$ [C] $\frac{6}{4}$ [D] $\frac{4}{6}$

10. 060705a, P.I. A.S.20
A six-sided number cube has faces with the numbers 1 through 6 marked on it. What is the probability that a number less than 3 will occur on one toss of the number cube?

[A] $\frac{4}{6}$ [B] $\frac{1}{6}$ [C] $\frac{3}{6}$ [D] $\frac{2}{6}$

11. 010903ia, P.I. A.S.22
The faces of a cube are numbered from 1 to 6. If the cube is rolled once, which outcome is *least* likely to occur?

[A] rolling an even number

[B] rolling a number greater than 4

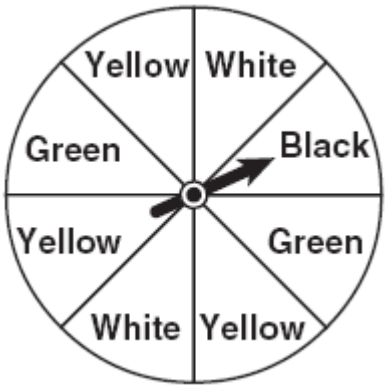
[C] rolling an odd number

[D] rolling a number less than 6

12. fall0702ia, P.I. A.S.23
Throughout history, many people have contributed to the development of mathematics. These mathematicians include Pythagoras, Euclid, Hypatia, Euler, Einstein, Agnesi, Fibonacci, and Pascal. What is the probability that a mathematician's name selected at random from those listed will start with either the letter E or the letter A?

[A] $\frac{3}{8}$ [B] $\frac{4}{8}$ [C] $\frac{6}{8}$ [D] $\frac{2}{8}$

13. 060802ia, P.I. A.S.22
A spinner is divided into eight equal regions as shown in the diagram below.



Which event is most likely to occur in one spin?

[A] The arrow will land in a green or black area.

[B] The arrow will land in a green or white area.

[C] The arrow will land in a yellow or green area.

[D] The arrow will land in a yellow or black area.

NAME:_____

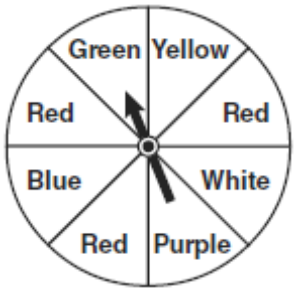
14. 080604a, P.I. A.S.20
The faces of a cube are numbered from 1 to 6. What is the probability of *not* rolling a 5 on a single toss of this cube?

[A] $\frac{1}{6}$ [B] $\frac{1}{5}$ [C] $\frac{5}{6}$ [D] $\frac{4}{5}$

15. 060202a, P.I. A.S.20
If the probability that it will rain on Thursday is $\frac{5}{6}$, what is the probability that it will *not* rain on Thursday?

[A] $\frac{1}{6}$ [B] $\frac{5}{6}$ [C] 1 [D] 0

16. 080907ia, P.I. A.S.20
The spinner below is divided into eight equal regions and is spun once. What is the probability of not getting red?



[A] $\frac{3}{8}$ [B] $\frac{7}{8}$ [C] $\frac{3}{5}$ [D] $\frac{5}{8}$

17. 010907a, P.I. A.S.20
If the probability of a spinner landing on red in a game is $\frac{1}{5}$, what is the probability of it *not* landing on red?

[A] 20% [B] 50% [C] 80% [D] 25%

18. 010805a, P.I. A.S.20
A box contains 6 dimes, 8 nickels, 12 pennies, and 3 quarters. What is the probability that a coin drawn at random is *not* a dime?

[A] $\frac{6}{29}$ [B] $\frac{12}{29}$ [C] $\frac{23}{29}$ [D] $\frac{8}{29}$

19. 080803a, P.I. A.S.20
Marilyn selects a piece of candy at random from a jar that contains four peppermint, five cherry, three butterscotch, and two lemon candies. What is the probability that the candy she selects is *not* a cherry candy?

[A] $\frac{5}{14}$ [B] $\frac{14}{14}$ [C] 0 [D] $\frac{9}{14}$

[1] A

[2] A

[3] A

[4] C

[5] A

[6] C

[7] [2] $\frac{1}{2}$ or an equivalent answer, and an appropriate explanation is written.
[1] A correct explanation is written, but the probability is not stated.
or [1] $\frac{1}{2}$ or an equivalent answer, but no explanation is written.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

[8] C

[9] B

[10] D

[11] B

[12] B

[13] C

[14] C

[15] A

[16] D

[17] C

[18] C

[19] D