

Previous Answer:

\$60.00

A GAME COSTS \$3 TO PLAY.
YOU MUST ROLL A SIX-SIDED DIE AND FLIP A
COIN. YOU WIN \$12 IF YOU ROLL A 4 AND THE
COIN LANDS ON TAILS.
DETERMINE THE EXPECTED GAIN.

Card A

Previous Answer:

\$28.13

A GAME COSTS \$6 TO PLAY.
YOU PICK A MARBLE FROM A BAG CONTAINING
3 RED MARBLES, 2 BLUE MARBLES, AND 1
YELLOW MARBLE. YOU WIN \$22 IF YOU PICK A
BLUE MARBLE.
DETERMINE THE EXPECTED GAIN.

Card B

Previous Answer:

\$ – 2.00

A GAME COSTS \$10 TO PLAY.
YOU PICK AN ANIMAL FROM A BAG
CONTAINING 4 COWS, 2 PIGS, AND 1 SHEEP
AND YOU PICK A CARD FROM A STANDARD
DECK OF PLAYING CARDS. YOU WIN \$25 IF YOU
PICK A SHEEP OR A QUEEN. YOU GET YOUR \$10
BACK IF YOU PICK A COW AND A RED CARD.
DETERMINE THE EXPECTED GAIN.

Card C

Previous Answer:

\$1.88

A GAME COSTS \$5 TO PLAY.
YOU PICK ROLL A 6-SIDED DIE AND FLIP A COIN.
YOU WIN IF YOU ROLL A 3 AND THE COIN LANDS
ON TAILS. HOW MUCH WILL YOU HAVE TO WIN
FOR THIS GAME TO BE FAIR?

Card D

Previous Answer:

\$ – 1.92

YOU ARE PLAYING A FAIR GAME. YOU SPIN A SPINNER THAT HAS 4 EQUAL SECTIONS (RED, BLUE, YELLOW, AND GREEN) AND YOU PICK A CARD FROM A STANDARD DECK OF PLAYING CARDS. YOU WIN \$45 IF YOU THE SPINNER LANDS ON YELLOW OR YOU PICK A BLACK CARD. HOW MUCH DOES THE GAME COST TO PLAY?

Card E

Previous Answer:

\$1.33

A GAME COSTS \$30 TO PLAY. YOU ROLL TWO 6-SIDED DICE AND YOU SPIN A SPINNER THAT HAS 4 EQUAL SECTIONS (RED, BLUE, YELLOW, AND GREEN). YOU WIN \$1530 IF YOU ROLL A SUM OF 3 AND THE SPINNER LANDS ON YELLOW. YOU GET YOUR \$30 BACK IF YOU ROLL A SUM OF 8 OR THE SPINNER LANDS ON RED. DETERMINE THE EXPECTED GAIN.

Card F

BONUS!

THERE ARE 23 PEOPLE IN A ROOM. WHAT IS THE PROBABILITY THAT AT LEAST 2 OF THEM SHARE A BIRTHDAY?

NOTE: LET'S ASSUME THERE ARE NO LEAP YEARS. LET'S FURTHER ASSUME THE SAME NUMBER OF PEOPLE ARE BORN EACH DAY OF THE YEAR.

BONUS 2: HOW MANY PEOPLE WOULD YOU NEED TO HAVE IN A ROOM FOR THERE TO BE A 99% CHANCE THAT AT LEAST 2 PEOPLE SHARE THE SAME BIRTHDAY?