

Playing Card Probability

Use the stated equally likely outcomes. Give each probability as a simplified fraction.

1. Draw a card, replace it, shuffle, and draw again from a standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of draw 1: 6 and draw 2: J?**
- _____

6. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of Q?**
- _____

2. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of K?**
- _____

7. Draw a card, replace it, shuffle, and draw again from a standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of draw 1: ace and draw 2: 2?**
- _____

3. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of face card?**
- _____

8. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of clubs and numeric rank from 2 through 6?**
- _____

4. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of spades?**
- _____

9. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of 3?**
- _____

5. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of 4?**
- _____

10. Draw a card, replace it, shuffle, and draw again from a standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.
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- What is the probability of draw 1: 4 and draw 2: 5?**
- _____

Playing Card Probability

Answer key

Use the stated equally likely outcomes. Give each probability as a simplified fraction.

1. Draw a card, replace it, shuffle, and draw again from a standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of draw 1: 6 and draw 2: J?

$P = 1/169$. draw 1: $4/52 \times$ draw 2: $4/52$. 16 favorable outcomes out of 2704; $16/2704 = 1/169$.

6. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of Q?

$P = 1/13$. clubs:1, diamonds:1, hearts:1, spades:1. 4 favorable outcomes out of 52; $4/52 = 1/13$.

2. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of K?

$P = 1/13$. clubs:1, diamonds:1, hearts:1, spades:1. 4 favorable outcomes out of 52; $4/52 = 1/13$.

7. Draw a card, replace it, shuffle, and draw again from a standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of draw 1: ace and draw 2: 2?

$P = 1/169$. draw 1: $4/52 \times$ draw 2: $4/52$. 16 favorable outcomes out of 2704; $16/2704 = 1/169$.

3. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of face card?

$P = 3/13$. clubs:3, diamonds:3, hearts:3, spades:3. 12 favorable outcomes out of 52; $12/52 = 3/13$.

8. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of clubs and numeric rank from 2 through 6?

$P = 5/52$. clubs:5, diamonds:0, hearts:0, spades:0. 5 favorable outcomes out of 52; $5/52 = 5/52$.

4. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of spades?

$P = 1/4$. clubs:0, diamonds:0, hearts:0, spades:13. 13 favorable outcomes out of 52; $13/52 = 1/4$.

9. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of 3?

$P = 1/13$. clubs:1, diamonds:1, hearts:1, spades:1. 4 favorable outcomes out of 52; $4/52 = 1/13$.

5. Draw one card from a well-shuffled standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of 4?

$P = 1/13$. clubs:1, diamonds:1, hearts:1, spades:1. 4 favorable outcomes out of 52; $4/52 = 1/13$.

10. Draw a card, replace it, shuffle, and draw again from a standard 52-card deck with no jokers. Face cards are J, Q, and K; an ace is separate; numeric ranks are 2–10.



What is the probability of draw 1: 4 and draw 2: 5?

$P = 1/169$. draw 1: $4/52 \times$ draw 2: $4/52$. 16 favorable outcomes out of 2704; $16/2704 = 1/169$.