

Tell whether the events are **INDEPENDENT** or **DEPENDENT**.

(circle one)

- 1. You spin a quarter and a nickel on a table. They both land on tails. **INDEPENDENT or DEPENDENT**
- 2. You randomly choose 1 of 10 marbles and replace it. Then you randomly choose one more marble. **INDEPENDENT or DEPENDENT**
- 3. You toss a coin and then roll a number cube. **INDEPENDENT or DEPENDENT**
- 4. A container has 5 black buttons, 3 white buttons and 1 blue buttons. You reach in and randomly draw out a blue button. You KEEP the blue button and reach in again to draw out a black button. **INDEPENDENT or DEPENDENT**

A container holds 12 red balls, 2 black balls, and 2 blue balls.

Use the above information to answer the following **WITH** replacement.

- 5. Find P (red ball, black ball)
- 6. Find P (blue and then red)
- 7. Find P (black, black)

Use the above information to answer the following **WITHOUT** replacement.

- 8. Find P (red ball, black ball)
- 9. Find P (blue and then red)
- 10. Find P (blue, blue)

Find each probability.

Each item is NOT REPLACED.

- 11. A box contains 4 red and 3 yellow pencils. Choose a yellow one, keep it, and choose a red one.

Find each probability.

Each item IS REPLACED.

- 12. A box contains 4 red and 3 yellow pencils. Choose a yellow one, replace it, and choose a red one.

1. Independent	2. Independent	3. Independent	4. Dependent	5. $P(\text{Red, Black}) = \frac{3}{32}$
6. $P(\text{Blue, Red}) = \frac{32}{2}$	7. $P(\text{Black, Black}) = \frac{64}{1}$	8. $P(\text{Blue, Red}) = \frac{10}{1}$	9. $P(\text{Blue, Red}) = \frac{10}{1}$	10. $P(2 \text{ Blue}) = \frac{120}{1}$
11. $P(\text{Yellow, Red}) = \frac{7}{2}$	12. $P(\text{Yellow, Red}) = \frac{7}{2}$			