A school cafeteria offers a choice of turkey, ham, or tuna for a sandwich. With each sandwich you have a choice of milk or lemonade as a drink.

What are all the possible combinations of sandwiches and drinks?

Number of sandwiches: 3

Number of drinks: 2

Total number of possible combinations equals: $3 * 2 = 6$

Answer: 6

What is the probability of picking a turkey sandwich with lemonade?

$$Probability = \frac{total\ ways\ a\ specific\ outcome\ will\ happen}{total\ number\ of\ possible\ outcomes}$$

There are only one way pick a turkey sandwich with lemonade. Total number of possible outcomes equals total number of possible combinations of sandwiches and drinks - 6.

$$Probability = \frac{1}{6}$$

Answer: $\frac{1}{6}$

What is the probability of picking milk as a drink with any sandwich?

$$Probability = \frac{total\ ways\ a\ specific\ outcome\ will\ happen}{total\ number\ of\ possible\ outcomes}$$

There are 3 ways pick milk as a drink (with turkey, ham, or tuna for a sandwich) . Total number of possible outcomes equals total number of possible combinations of sandwiches and drinks - 6.

$$Probability = \frac{3}{6} = \frac{1}{2}$$

Answer: $\frac{1}{2}$