MATH-5
ALG-5th grade-Probability -practice
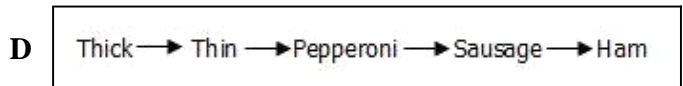**Exam not valid for Paper Pencil Test Sessions**

[Exam ID:13JCZT

1   **Mark is ordering pizza for the Pizza Shop.**

Pizza Choices	
Types of Crust	**Topping**
Thin Thick	Pepperoni Sausage Ham

Which diagram shows all possible combinations Mark has if he picks 1 type of crust and 1 topping from the chart?

A

Thick — Pepperoni, Sausage
Thin — Pepperoni, Ham

C

Thick — Pepperoni, Ham
Thin — Sausage

B

Thick — Pepperoni, Sausage, Ham
Thin — Pepperoni, Sausage, Ham

D

Thick → Thin → Pepperoni → Sausage → Ham
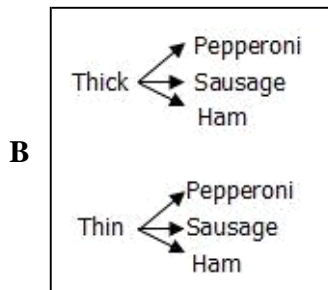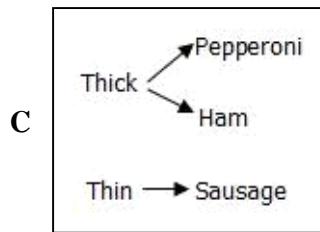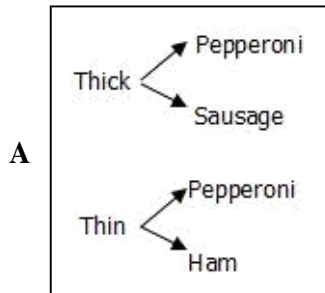
2 Robin wanted to make a sandwich for lunch. The chart shows the different meats, condiments, and cheeses from which she can choose.

Sandwich Choices

Meat	Condiment	Cheese
Ham	Mayonnaise	Swiss
Turkey	Mustard	American

**Which lists all the different combinations of 1 meat, 1 condiment, and 1 cheese Robin can choose?**

A
Ham, Mayonnaise, Swiss
Ham, Mayonnaise, American
Ham, Mustard, Swiss
Ham, Mustard, American
Turkey, Mayonnaise, Swiss
Turkey, Mayonnaise, American
Turkey, Mustard, Swiss
Turkey, Mustard, American

B
Ham, Mustard, Swiss
Ham, Mustard, American
Turkey, Mayonnaise, Swiss
Turkey, Mayonnaise, American

C
Ham, Mayonnaise, Swiss
Ham, Mustard, Swiss
Turkey, Mayonnaise, Swiss
Turkey, Mustard, Swiss

D
Ham, Mayonnaise, Swiss
Ham, Mayonnaise, American
Ham, Mustard, Swiss
Turkey, Mayonnaise, Swiss
Turkey, Mayonnaise, American
Turkey, Mustard, Swiss
Turkey, Mustard, American

3 The possible outcomes of flipping two coins are shown below.

Flipping Two Coins

First Coin	Second Coin
Heads	Tails
Heads	Heads
Tails	Tails
Tails	Heads

What is the probability the coins will land with the same sides showing?

A $\dfrac{1}{4}$

B $\dfrac{2}{4}$

C $\dfrac{2}{3}$

D $\dfrac{3}{4}$

**4** How many different ways could Lisa arrange these four stickers in this rectangle?

★◆✚➡
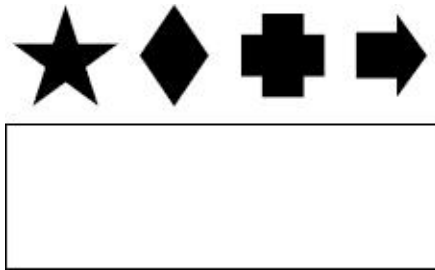
A 12
B 8
C 4
D 24

5 Martin will glue a design he made onto a paper or a plastic plate. Then he will decorate the plate with one of the materials listed in the chart below.

Plate Designs

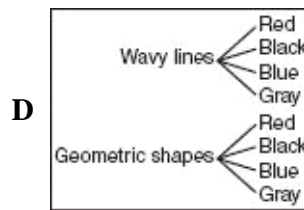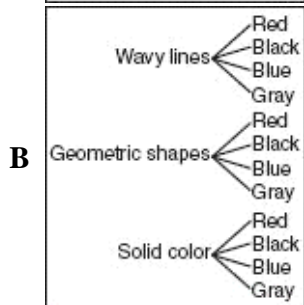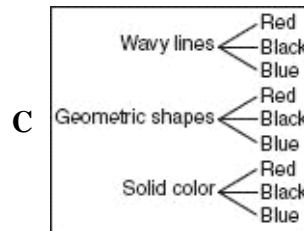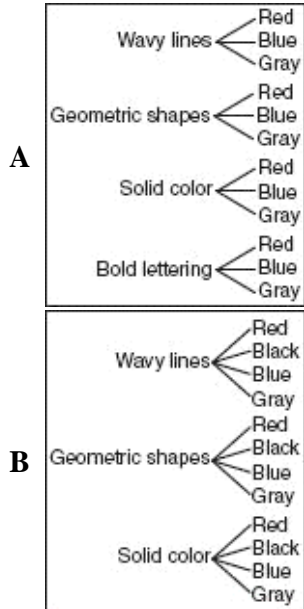| Kind of Plate	Materials
Paper Plastic	Glitter glue Stamps Yarn Stickers

Which tree diagram shows all the possible combinations of 1 kind of plate and 1 material that Martin can make?

A
Paper
Glitter glue — Yarn
Stamps — Stickers
Plastic

C
Paper
Glitter glue
Stamps
Plastic
Yarn
Stickers

B
Paper
Glitter glue
Stamps
Yarn
Stickers
Plastic
Glitter glue
Stamps
Yarn
Stickers

D
Paper
Glitter glue
Stamps
Plastic
Stickers
Plastic
Glitter glue
Stamps
Yarn
Paper

6
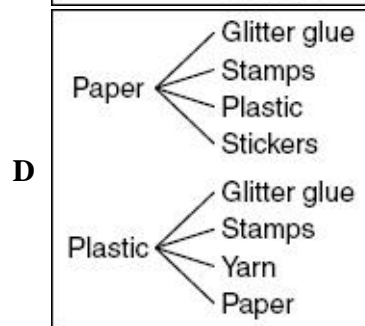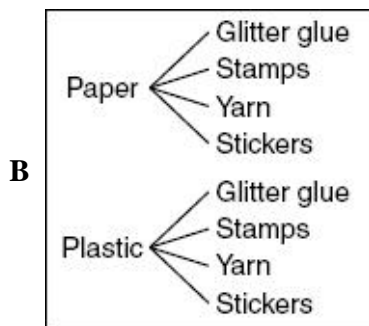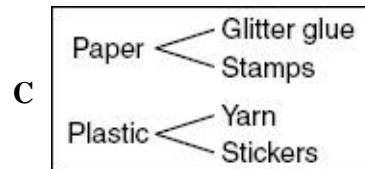
Custom Skateboard Options

Design	Background Color
Wavy lines Geometric shapes Solid color	Red Black Blue Gray

Which tree diagram shows all the possible combinations of custom skateboards with 1 design and 1 background color?

A

Wavy lines — Red, Blue, Gray
Geometric shapes — Red, Blue, Gray
Solid color — Red, Blue, Gray
Bold lettering — Red, Blue, Gray

C

Wavy lines — Red, Black, Blue
Geometric shapes — Red, Black, Blue
Solid color — Red, Black, Blue

B

Wavy lines — Red, Black, Blue, Gray
Geometric shapes — Red, Black, Blue, Gray
Solid color — Red, Black, Blue, Gray

D

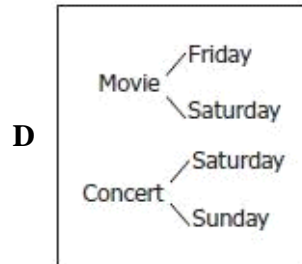Wavy lines — Red, Black, Blue, Gray
Geometric shapes — Red, Black, Blue, Gray

7 Joe wants to do something fun this weekend.

Weekend Options

Event	Day
Movie	Friday
Concert	Saturday
	Sunday

Which diagram shows all possible combinations Joe has if he picks 1 event and 1 day from the chart?

A
```
        /Friday
Movie —Saturday
        \Sunday
        /Friday
Concert
        \Saturday
```

C
```
Movie —Friday

        /Saturday
Concert
        \Sunday
```

B
```
        /Friday
Movie —Saturday
        \Sunday
        /Friday
Concert —Saturday
        \Sunday
```

D
```
        /Friday
Movie
        \Saturday
        /Saturday
Concert
        \Sunday
```
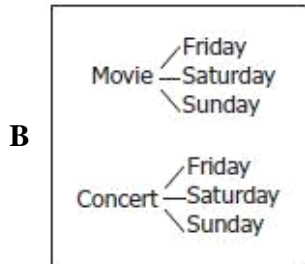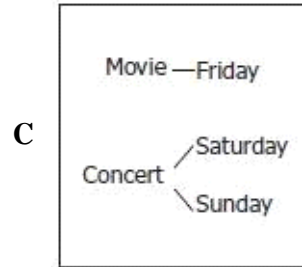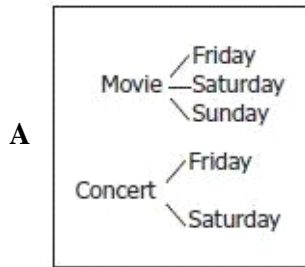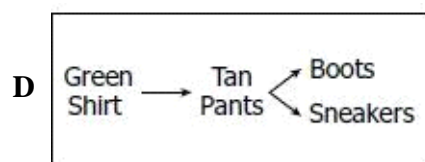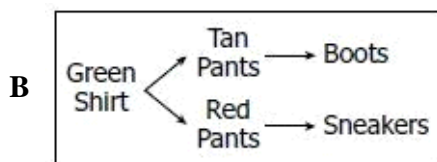
8 Greg needs an outfit for school. He must choose 1 shirt, 1 pair of pants, and 1 pair of shoes.

Clothes Combinations

Color of Shirt	Color of Pants	Type of Shoes
Green	Tan	Boots
	Red	Sneakers

Based on the information in the chart, which tree diagram shows all of Greg's possible combinations?

A
```
              Tan    / Boots
Green       / Pants  \ Sneakers
Shirt   <
              Red    / Boots
              Pants  \ Sneakers
```

C
```
Green      Tan
Shirt  —  Pants  — Boots
```

B
```
              Tan
Green       / Pants  — Boots
Shirt   <
              Red
              Pants  — Sneakers
```

D
```
Green      Tan    / Boots
Shirt  —  Pants  \ Sneakers
```
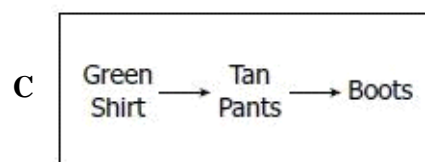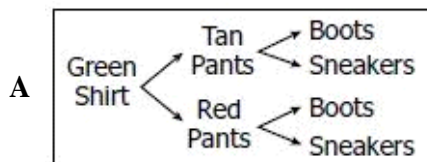
9 Renee needs to wrap her friend's birthday present. The chart below lists the possible combinations of wrapping paper, ribbon, and a gift tag she can choose.

Wrapping Paper	Ribbon	Gift Tag
Flowers	Gold	Rectangle
Flowers	Gold	Circle
Flowers	Silver	Rectangle
Flowers	Silver	Circle
Stars	Gold	Rectangle
Stars	Gold	Circle
Stars	Silver	Rectangle
Stars	Silver	Circle
Stripes	Gold	Rectangle
Stripes	Gold	Circle
Stripes	Silver	Rectangle
Stripes	Silver	Circle
Polka Dots	Gold	Rectangle
Polka Dots	Gold	Circle
Polka Dots	Silver	Rectangle
Polka Dots	Silver	Circle

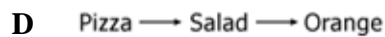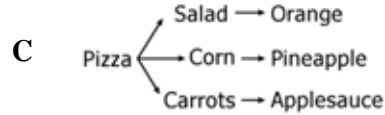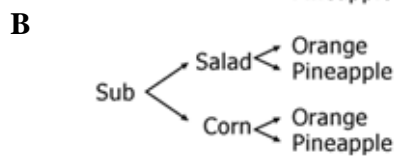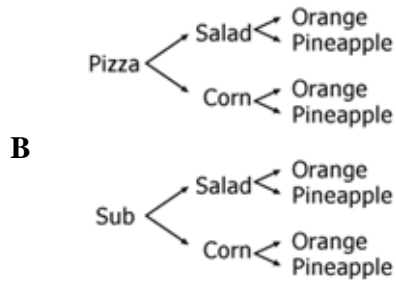**What is the probability that the gift tag she will choose will be a rectangle?**
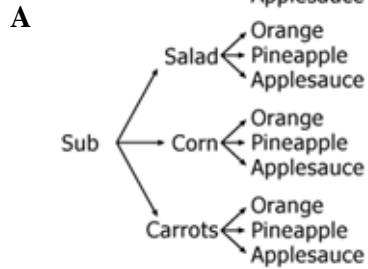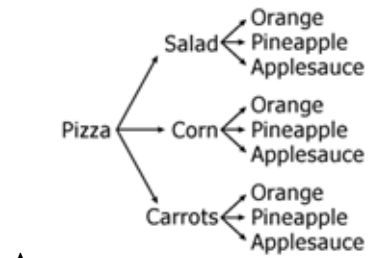
A $\dfrac{8}{16}$

B $\dfrac{1}{16}$

C $\dfrac{1}{8}$

D $\dfrac{8}{8}$

10 The lunch menu at Stonegate Elementary School was posted on the cafeteria bulletin board. Lunch includes a main dish, a side dish, and a fruit.

	Lunch Menu	
Main Dish	**Side Dish**	**Fruit**
Pizza	Salad	Orange
Sub	Corn	Pineapple
	Carrots	Applesauce

Which diagram shows all of the possible combinations of lunch that a student can choose?

A

```
                 Orange
          Salad← Pineapple
                 Applesauce
                 Orange
Pizza ←   Corn← Pineapple
                 Applesauce
                 Orange
          Carrots← Pineapple
                 Applesauce
                 Orange
          Salad← Pineapple
                 Applesauce
                 Orange
Sub ←     Corn← Pineapple
                 Applesauce
                 Orange
          Carrots← Pineapple
                 Applesauce
```

B

```
              Orange
        Salad< Pineapple
Pizza <
              Orange
        Corn< Pineapple

              Orange
        Salad< Pineapple
Sub <
              Orange
        Corn< Pineapple
```

C

```
        Salad → Orange
Pizza ← Corn → Pineapple
        Carrots → Applesauce
```

D   Pizza —→ Salad —→ Orange

Directions: Click on each statement you want to select. You must select all correct statements.

Antonio has a bag of marbles. The bag contains:

- **3 blue marbles**
- **5 black marbles**
- **8 red marbles**
- **3 green marbles**
- **5 white marbles**

Which statements are true?

| The probability of selecting a white marble is $\dfrac{1}{5}$. |
|---|
| The probability of selecting a black marble is greater than the probability of selecting a red marble. |
| The probability of selecting a blue marble is equal to the probability of selecting a green marble. |
| The probability of selecting a red marble is $\dfrac{8}{24}$. |

Directions: Type your answer in the box. Use "/" for the fraction bar.

Olivia is ordering lunch at a local sandwich shop. The menu is displayed below.

She can choose a sandwich that contains 1 meat, 1 type of cheese, 1 topping, and 1 condiment. What is the probability that the sandwich Olivia chooses will contain lettuce?

Meat	Cheese	Topping	Condiment
Ham	Swiss	Tomato	Mayonnaise
Turkey	Cheddar	Lettuce	Mustard
Roast Beef			

13 **Questions inspired by Ethan.**
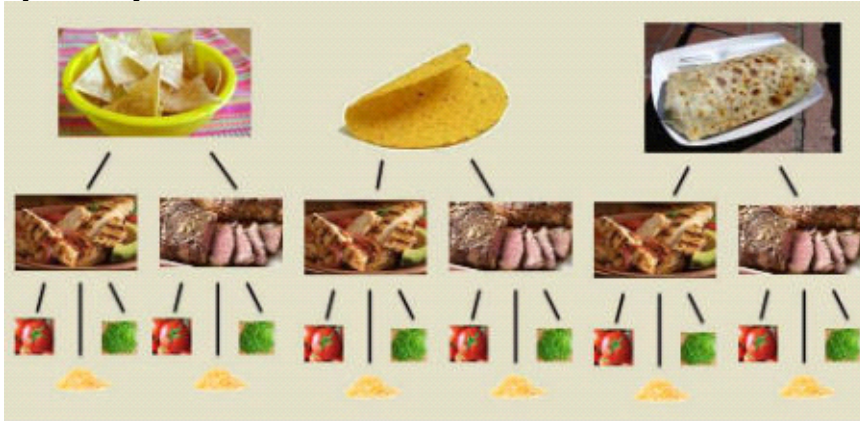
ETHAN'S MENU	
Nachos	$3.50
Tacos	$2.99
Burritos	$3.25
Meat	
Chicken	$5.50
Steak	$7.75
Toppings	
Tomatoes	$0.80
Cheese	$1.05
Lettuce	$0.50

Jake loves Mexican food! However, he is a very picky eater. He will only eat 1 type of meat with only 1 type of topping at a time. Jake earned $7.50 for cleaning his room. While cleaning his room he found $4.45. Select all the following answers that are true.

It is unlikely he will get a meal with cheese.	Jake had a total of $11.90.	It is equally likely that Jake will get chicken.
P(Tomatoes)= $\frac{6}{18}$	P(Tacos)= $\frac{8}{18}$	If Jake found $4.80, he could afford all the menu options.

14 **John rolled a number cube numbered 1 through 6. What is the probability her rolled a number less than 3?**

A $\frac{1}{3}$

B $\frac{1}{4}$

C $\frac{1}{8}$

D $\frac{1}{6}$

15 **Matt tossed two coins. What is the probability both coins showed heads?**

A $\frac{1}{4}$

B $\frac{1}{3}$

C $\frac{1}{2}$

D 1

16

Brad has 2 bags with blocks that are all the same shape and size. There are 5 blocks in Bag A and 2 blocks in Bag B as shown.

Brad will randomly select one block from each bag. Which list shows all of the possible combinations of one block from each bag?

Blocks in Bags

Bag A	Bag B
Blue	Purple
Green	White
Orange	
Red	
Yellow	

A
Blue, Purple
Green, White
Orange, Purple
Red, White
Yellow, Purple

C
Blue, Purple
Blue, White
Green, Purple
Green, White
Orange, Purple
Red, White
Yellow, Purple

B
Blue, Purple
Blue, White
Green, Purple
Green, White
Orange, Purple
Orange, White
Red, Purple
Red, White
Yellow, Purple
Yellow, White

D
Blue, Purple
Blue, Blue
Green, White
Green, Green
Orange, Purple
Orange, Orange
Red, White
Red, Red
Yellow, Purple
Yellow, Yellow

17 This sample space shows all the possible combinations of one type of main dish and one type of drink from which Roberto can choose.

Cereal, Milk
Cereal, Juice
Eggs, Milk
Eggs, Juice
Pancakes, Milk
Pancakes, Juice

According to the sample space, what is the probability Roberto will select eggs and juice?

A $\dfrac{2}{4}$

B $\dfrac{2}{6}$

C $\dfrac{1}{5}$

D $\dfrac{1}{6}$

18 Directions: Type your answers in the space provided.

Describe how you would develop a sample space to determine the frequency of rolling an even number on a number die.

19 What is the probability that the spinner lands on green?
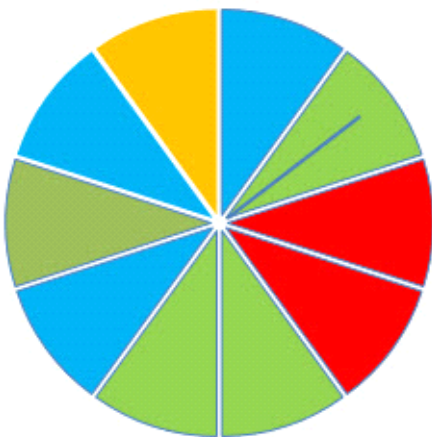
A 2/10
B 1/10
C 4/10
D 3/10

This sample space shows all of the possible combinations of one type of drink and one type of snack that Leslie can choose.

Water, Apple
Water, Cheese
Water, Pretzels
Water, Banana
Juice, Apple
Juice, Cheese
Juice, Pretzels
Juice, Banana

According to the sample space, what is the probability that the combination Leslie chooses will include juice?

A $\dfrac{8}{8}$

B $\dfrac{1}{8}$

C $\dfrac{4}{8}$

D $\dfrac{1}{4}$