

Graphic Arts
Counting Techniques Quiz

Name Key

1. A printer is offers 8 designs, 10 color options, and 5 sizes for banners. How many different types of banners can the printer produce?

$$8 \cdot 10 \cdot 5 = \underline{\underline{400}}$$

2. A screen-printer is offering 3 types of hooded sweatshirts with 4 print style options, 4 ink options, and 3 color options. How many different types of hooded sweatshirts can the screen-printer produce?

$$3 \cdot 4 \cdot 4 \cdot 3 = \underline{\underline{144}}$$

3. A deli offers its customers the different choices of bread, meat, and toppings as shown on the menu below. If Jared orders a sandwich with one type of bread, one type of meat, and one topping at random, what are the possible combinations that he can order?

Deli Menu		
Bread	Meat	Toppings
White	Ham	Cheese
Wheat	Turkey	Lettuce
Rye	Roast Beef	Tomato
		Onions
		Peppers

3 3 5

$$3 \cdot 3 \cdot 5 = \underline{\underline{45}}$$

The Department of Motor Vehicles is investigating different license plate designs. They have come up with five designs:

Design 1:	Two letters (A-Z) followed by four numbers (0-9).
Design 2:	Three letters (A-Z) followed by three numbers (0-9).
Design 3:	Three numbers (0-9) followed by three letters (A-Z).
Design 4:	Four numbers (0-9) followed by two letters (A-Z).
Design 5:	Three letters (A-Z) followed by three numbers (0-9), with an image of the state bird on the plate.

All designs allow for the repetition of letters and numbers. The plates are assigned randomly to drivers.

4. Refer to the data above. How many different plates of Design 2 can be issued?

$$26 \cdot 26 \cdot 26 \cdot 10 \cdot 10 \cdot 10 = \underline{\underline{17,576,000}}$$

5. Refer to the data above. The surveillance cameras at a gas station catch a car's license plate when the driver leaves without paying for gas. The cameras show that the ending of the license plate is 2865. If the license plate is of Design 1, how many license plates fit this description?

$$\underline{26} \cdot \underline{26} \cdot \underline{1} \cdot \underline{1} \cdot \underline{1} \cdot \underline{1} = \underline{\underline{676}}$$