

## More With the Counting Principle: Classwork

You may answer the rest directly on this worksheet. You must show and label your work!

1. A clothing company offers hoodies in 4 different sizes, 15 different colors, and 3 different designs. How many different kinds of hoodies are possible?



2. Russell's school offers 14 different subjects. How many different schedules of 6 classes are possible?

3. A restaurant offers customers the following options:

If a customer can choose one entrée, one appetizer, and one drink, then how many different meals are possible?

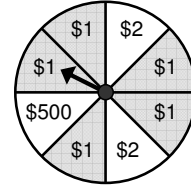
Entrée	Appetizer	Drink
Chicken	Salad	Soda
Beef	Soup	Juice
Fish		Water
		Coffee
		Tea

4. a. How many 4-letter arrangements are possible using the 26 letters of the alphabet if no letter can be used more than once?
- b. How many 4-letter arrangements are possible using the 26 letters of the alphabet if letters can be repeated?
5. Some Washington license plates have two letters and five numbers. How many different license plates are possible?



6. Richard is putting together outfits. He currently has 10 shirts and 4 jeans. How many pairs of shoes does he need so that he can make 320 different outfits?

7. Kam is going to spin the spinner four times. How many different outcomes are possible?



8. Marshawn's online password starts with 5 letters and ends with 2 numbers. How many passwords are possible?

9. Earl has 9 books that he needs put away on the top shelf of his book shelf. In how many different ways can he arrange them?



10. A shirt company offers the following options:  
How many different kinds of shirts are possible?

Size	Style	Color
Small	Short Sleeve	White
Medium	Long Sleeve	Red
Large		Black
Extra Large		Blue
		Grey
		Pink

11. Use the numbers 1, 2, 3, 4, and 6 as digits for the following problems.  
a. How many 3-digit numbers are possible if repeated digits are not allowed?

b. How many of the 3-digit numbers are odd? *Hint: it is not half of them!*

c. How many of the 3-digit numbers are larger than 400?

12. Percy's email password has 3 letters and some numbers. He says that it has no repeated characters and a little over 78 million possibilities. How many numbers are in his password?