

1. Kimball is selling school sweatshirts with a new design. The sweatshirts come in 3 sizes, small, medium and large. They come in 2 styles, crew neck and hoodie. You will have a choice of colors, black, blue, and grey. How many different choices of sweatshirts are there? Make tree diagram and then use the fundamental counting principle.
2. Bagel Street Café sells 30 varieties of bagels with 13 types of cream cheese. If you tried a different bagel with a different cream cheese each day, how many days would it take you to try them all? Don't use a tree!
3. Dominos has many different choices for their pizzas. You can order a thin, thick, pan, or hand tossed. They have different sizes to choose from: small, medium, large, family, and personal. There are 15 different toppings to put on the pizza. How many different one-topping pizzas can be made?

Evaluate 4-12.

4. $5!$

5. $8!$

6. $4!$

7. $\frac{7!}{3!}$

8. $\frac{12!}{6!}$

9. $\frac{13!}{10!}$

10. $\frac{6!}{4!3!}$

11. $\frac{11!}{5!2!}$

12. $\frac{99!}{98!}$ (try and think of an easier way)