



Probability Fundamental Counting Principle - Scenario Details Complex Restriction to Multiplication

1

You are putting together an outfit. You choose one shirt (red, blue, green, white) and one pants (blue, green, white). If the shirt is red, then the pants must be blue.

Which multiplication gives the number of different outfits you can make?

A	$4 + 3$	B	4×3
C	$(1 \times 1) + (3 \times 3)$	D	3×3

You are putting together a custom car. You choose one color (red, black, grey, white), one wheel set (sport, classic), and one interior (leather, cloth, vinyl). 6 of the possible cars are unavailable.

Which multiplication gives the number of different cars you can make?

A	$(4 \times 2 \times 3) + 6$	B	$(4 \times 2 \times 3) - 6$
C	$(4 \times 2 \times 3) - 7$	D	$4 \times 2 \times 3$

3

You are putting together an ice cream cone. You choose one flavor (chocolate, vanilla) and one sauce (caramel, fudge, berry). 1 of the possible cones is unavailable.

Which multiplication gives the number of different cones you can make?

A	2×3	B	$(2 \times 3) + 1$
C	$(2 \times 3) - 1$	D	$(2 \times 3) - 2$

4

You are putting together a pizza. You choose one size (small, medium), one crust (flat, thick, stuffed), and one topping (pepperoni, mushroom, sausage, vegetables). If the topping is vegetables, then the crust must be thick.

Which multiplication gives the number of different pizzas you can make?

A	$2 \times 3 \times 3$
B	$2 + 3 + 4$
C	$2 \times 3 \times 4$
D	$(2 \times 1 \times 1) + (2 \times 3 \times 3)$

5

You are putting together a vacation package. You choose one destination (beach, mountains, city) and one hotel (budget, standard). The standard hotel and the beach destination cannot be chosen together.

Which multiplication gives the number of different vacations you can make?

A	3×2	B	$(3 \times 2) - (1 \times 1)$
C	$(3 \times 2) + (1 \times 1)$	D	4×2

6

You are putting together a home office setup. You choose one desk (standing, wooden, glass) and one chair (mesh, leather). 1 of the possible office setups is unavailable.

Which multiplication gives the number of different office setups you can make?

A	$(3 \times 2) - 2$	B	$(3 \times 2) + 1$
C	$(3 \times 2) - 1$	D	3×2

7

You are putting together a burger. You choose one patty (beef, chicken, veggie) and one cheese (cheddar, swiss). If the cheese is cheddar, then the patty must be beef.

Which multiplication gives the number of different burgers you can make?

A	3×1	B	$(1 \times 1) + (3 \times 1)$
C	3×2	D	$3 + 2$

8

You are putting together a gift basket. You choose one theme (spa, food, books) and one wrapping (red, gold). The gold wrapping and the food theme cannot be chosen together.

Which multiplication gives the number of different gift baskets you can make?

A	3×2	B	$(3 \times 2) - (1 \times 1)$
C	$(3 \times 2) + (1 \times 1)$	D	4×2