

The Product Rule for Counting *fluency*

ANSWERS



One item is chosen from each group. How many different ways are there?

1 groups of 3 and 4 *12*

2 groups of 5 and 6 *30*

3 groups of 2 and 9 *18*

4 groups of 7 and 8 *56*

5 groups of 10 and 4 *40*

6 groups of 12 and 5 *60*



One item is chosen from each group. How many different ways are there?

7 groups of 2, 3 and 4 *24*

8 groups of 5, 2 and 6 *60*

9 groups of 3, 3 and 3 *27*

10 groups of 4, 5 and 10 *200*

11 groups of 6, 2 and 7 *84*

12 groups of 8, 3 and 5 *120*



How many different codes? Digits can repeat.

13 2 digits, each 0 to 9 *100*

14 3 digits, each 0 to 9 *1000*

15 4 digits, each 0 to 9 *10 000*

16 3 digits, each 1 to 5 *125*

17 2 digits, each 1 to 6 *36*

18 4 digits, each 1 to 3 *81*



How many different codes? Digits cannot repeat.

19 2 digits, each 0 to 9 *90*

20 3 digits, each 0 to 9 *720*

21 3 digits, each 1 to 5 *60*

22 4 digits, each 1 to 6 *360*

23 2 digits, each 1 to 4 *12*

24 5 digits, each 1 to 9 *15 120*



How many different codes? Letters are from A to Z, digits 0 to 9, and both can repeat.

25 1 letter then 1 digit *260*

26 1 letter then 2 digits *2600*

27 2 letters then 1 digit *6760*

28 2 letters then 2 digits *67 600*

29 1 letter then 3 digits *26 000*

30 3 letters then 2 digits *1757 600*