Sample spaces, compound events and the counting principle worksheet – Grade 7

Grade 7 · Mixed level · 20 questions · **Version X3763**

Name: _____ Date: _____ Score: ___ / 20

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1. How many outcomes are there when you roll 4 number cubes?

   Answer: _____

2. How many outcomes are there when you flip 3 coins and roll a number cube?

   Answer: _____

3. A meal has one of 4 mains, 7 sides and 3 drinks. How many meals are possible?

   Answer: _____

4. Chloe has 3 jackets, 5 shirts and 2 hats. How many outfits are possible?

   Answer: _____

5. How many outcomes are there when you flip 2 coins and roll a number cube?

   Answer: _____

6. Ben has 4 jackets, 6 shirts and 2 hats. How many outfits are possible?

   Answer: _____

7. A meal has one of 5 mains, 6 sides and 4 drinks. How many meals are possible?

   Answer: _____

8. A team picks a captain and then a vice-captain from 5 players. How many ways are there?

   Answer: _____

9. You roll two number cubes. What is the probability of a sum of 9? Write it in lowest terms.

   Answer: _____

10. A code has 4 digits from 0 to 9, and digits can repeat. How many codes are possible?

    Answer: _____

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11. A licence tag has 3 letters from A to E, then one digit from 1 to 6. How many tags are possible?

    Answer: _____

12. A code has 3 digits from 0 to 9, and digits can repeat. How many codes are possible?

    Answer: _____

13. A team picks a captain and then a vice-captain from 10 players. How many ways are there?

    Answer: _____

14. A licence tag has 3 letters from A to E, then one digit from 1 to 8. How many tags are possible?

    Answer: _____

15. 7 runners race. In how many ways can 1st, 2nd and 3rd place be awarded?

    Answer: _____

16. You roll two number cubes. What is the probability that the sum is not 8? Write it in lowest terms.

    Answer: _____

17. You flip 4 coins. What is the probability of all heads or all tails? Write it in lowest terms.

    Answer: _____

18. A code uses 3 different digits from 1 to 6, with no repeats. How many codes are possible?

    Answer: _____

19. You flip a coin and roll two number cubes. How many outcomes are there?

    Answer: _____

20. A code uses 3 different digits from 1 to 8, with no repeats. How many codes are possible?

    Answer: _____

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Answer key · Version X3763

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1. **1296**
2. **48**
3. **84**
4. **30**
5. **24**
6. **48**
7. **120**
8. **20**
9. **1/9**
10. **10000**
11. **750**
12. **1000**
13. **90**
14. **1000**
15. **210**
16. **31/36**
17. **1/8**
18. **120**
19. **72**
20. **336**

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