Experimental and theoretical probability worksheet – Grade 6

Grade 6 · Mixed level · 20 questions · **Version X5509**

Name: _____ Date: _____ Score: ___ / 20

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1. Find the theoretical probability of rolling a 6 on a number cube. Write it as a fraction.

   Answer: _____

2. A spinner landed on blue 7 times in 20 spins. What is the experimental probability of blue? Write it in lowest terms.

   Answer: _____

3. A spinner has 10 equal parts and 4 are red. What is the theoretical probability of red? Write it in lowest terms.

   Answer: _____

4. Ava made 6 of 40 shots. What is the experimental probability of making a shot, as a percent?

   Answer: _____

5. What is the theoretical probability of rolling a 4 on a number cube? Write it as a fraction.

   Answer: _____

6. A spinner has 4 equal parts and 2 are red. What is the theoretical probability of red? Write it in lowest terms.

   Answer: _____

7. A spinner landed on blue 15 times in 20 spins. What is the experimental probability of blue? Write it in lowest terms.

   Answer: _____

8. A player makes 8 of 40 shots. About how many of 160 shots would you predict?

   Answer: _____

9. You roll a number cube 120 times. About how many times should you expect a 4?

   Answer: _____

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10. A coin lands heads 7 times in 10 flips. What does this show?

    A. Short runs can differ from 1/2 **B.** The coin is broken **C.** Heads is always more likely

    D. Tails will come next

11. A spinner has 5 equal parts and 3 are red. In 100 spins, about how many should be red?

    Answer: _____

12. A spinner has 10 equal parts and 1 are red. In 200 spins, about how many should be red?

    Answer: _____

13. You roll a number cube 300 times. About how many times should you expect a 4?

    Answer: _____

14. A player makes 72 of 100 shots. About how many of 400 shots would you predict?

    Answer: _____

15. An event happened 33 times in 50 trials. What is the experimental probability that it did not happen, as a percent?

    Answer: _____

16. Which usually gets closer to the theoretical probability?

    A. 1,000 trials **B.** 10 trials **C.** 1 trial **D.** They are always equally close

17. In 100 trials, an event happened 70 times. How many times did it not happen?

    Answer: _____

18. A spinner has 2 of 4 equal parts red. In 100 spins it lands on red 29 times. How far is that from the expected number?

    Answer: _____

19. In 25 trials, an event happened 4 times. How many times did it not happen?

    Answer: _____

20. An event happened 20 times in 25 trials. What is the experimental probability that it did not happen, as a percent?

    Answer: _____

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Answer key · Version X5509

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1. **1/6**
2. **7/20**
3. **2/5**
4. **15%**
5. **1/6**
6. **1/2**
7. **3/4**
8. **32**
9. **20**
10. **A (Short runs can differ from 1/2)**
11. **60**
12. **20**
13. **50**
14. **288**
15. **34%**
16. **A (1,000 trials)**
17. **30**
18. **21**
19. **21**
20. **20%**

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