Excellence

1. A student says $P(\text{not even on a fair die}) = \frac{2}{6}$.
Are they correct? Explain.

2. A student says $P(\text{at least one head in two coin tosses}) = \frac{2}{4}$.
Are they correct? Explain.

3. A fair die is rolled. Write $P(\text{prime})$ in F/T form and simplify it.

4. A fair die is rolled. Write $P(\text{factor of } 6)$ in F/T form and simplify it.

5. A bag has 4 red, 5 blue, and 3 green counters. Write the probability of red or green in F/T form.

6. A bag has 2 gold, 7 silver, and 1 bronze token. Write the probability of not picking silver in F/T form.

7. A standard deck card is chosen. Write the probability of drawing a red king in F/T form.

8. A standard deck card is chosen. Write the probability of drawing a non-face card in F/T form.

9. A fair spinner has equal sectors labelled 1 to 8. Write the probability of landing on a factor of 8 in F/T form.

10. A fair spinner has equal sectors labelled 1 to 10. Write the probability of landing on a multiple of 3 in F/T form.

11. A coin is tossed and a fair die is rolled. Write the probability of getting heads and a 5 in F/T form.

12. A coin is tossed and a fair die is rolled. Write the probability of getting tails and an even number in F/T form.

13. Fill in the blank: if $P(\text{event}) = \frac{5}{12}$, then the number of favourable outcomes could be ____ when the total outcomes are 12.

14. Fill in the blank: if a bag has 9 counters and $P(\text{red}) = \frac{2}{9}$, then there are ____ red counters.

15. Which is greater: P(rolling a on a fair die or P(drawing a c from a standard deck? Show enough working to justify.

16. Which is smaller: P(factor of 12) on a fair die or P(exactly one head) in two coin tosses? Explain.

17. Which does not belong: $\frac{1}{2}, \frac{3}{6}, \frac{2}{4}, \frac{2}{3}$?

18. Explain why an F/T probability can never be greater than 1.