



**F/T**

Mana Maths

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# Te reo Māori terms



**tūponotanga**

probability

Open in Te Aka

**putanga**

favourable outcome

Open in Te Aka

**whakamātau**

experiment

Open in Te Aka

# Foundation

1. Write the probability of getting heads on a fair coin in F/T form.
2. Write the probability of getting tails on a fair coin in F/T form.
3. Write the probability of rolling a 6 on a fair die in F/T form.
4. Write the probability of rolling an even number on a fair die in F/T form.
5. Write the probability of rolling a number less than 3 on a fair die in F/T form.
6. Write the probability of choosing a red counter from a bag with 3 red and 2 blue counters in F/T form.
7. Write the probability of choosing a blue counter from a bag with 4 green and 1 blue counter in F/T form.
8. Write the probability of landing on *A* from a fair spinner with equal sectors labelled *A*, *B*, *C*, and *D*.
9. Write the probability of landing on a vowel from a fair spinner labelled *A*, *B*, *C*, *D*, *E*.

**10.** There are 10 marbles and 7 are yellow. Write the probability of picking yellow in F/T form.

**11.** There are 8 cards and 2 are stars. Write the probability of picking a star in F/T form.

**12.** Fill in the blank: for a fair die,  $P(\text{odd}) = \frac{\square}{6}$ .

**13.** Fill in the blank: for one coin toss,  $P(\text{heads}) = \frac{1}{\square}$ .

**14.** Which is greater:  $P(\text{rolling } 1)$  or  $P(\text{rolling an even number})$  on a fair die?

**15.** Which is smaller:  $P(\text{heads})$  on a fair coin or  $P(\text{rolling } 5)$  on a fair die?

**16.** A student says the probability of rolling a number less than 7 on a fair die is  $\frac{7}{6}$ . Are they correct?

# Proficient

1. Write the probability of rolling a factor of 12 on a fair die in F/T form.
2. Write the probability of rolling a multiple of 2 on a fair die in F/T form.
3. Write the probability of choosing a consonant from cards labelled *A, E, I, O, U, M, N, P*.
4. Write the probability of picking a prime number from a fair spinner labelled 1, 2, 3, 4, 5, 6.
5. A bag has 5 red, 3 blue, and 4 green counters. Write the probability of picking blue in F/T form.
6. A bag has 2 yellow, 2 black, and 6 white counters. Write the probability of not picking white in F/T form.
7. A standard deck card is chosen. Write the probability of drawing a heart in F/T form.
8. A standard deck card is chosen. Write the probability of drawing a face card in F/T form.
9. Two coins are tossed. Write the probability of getting exactly one head in F/T form.

**10.** Two coins are tossed. Write the probability of getting two tails in F/T form.

**11.** A fair die is rolled. Write the probability of getting a number greater than 4 in F/T form.

**12.** A fair die is rolled. Write the probability of not getting a multiple of 3 in F/T form.

**13.** Fill in the blank: if an event has 3 favourable outcomes out of 8 total outcomes, then  $P(\text{event}) = \frac{\quad}{\quad}$ .

**14.** Fill in the blank: for a fair spinner with 10 equal sectors, if 4 sectors are shaded then  $P(\text{shaded}) = \frac{\quad}{10}$ .

**15.** Which is greater: the probability of drawing a black card from a standard deck or the probability of rolling an odd number on a fair die?

**16.** Which is smaller: the probability of exactly one head in two coin tosses or the probability of drawing a king from a standard deck?

**17.** A student says  $P$  (prime on a fair die) is  $\frac{1}{6}$ . Are they correct?

**18.** Explain in one short sentence what the  $T$  stands for in F/T.

# Excellence

1. A student says  $P$  (not even on a fair die) is  $\frac{2}{6}$ . Are they correct? Explain.
2. A student says  $P$  (at least one head in two coin tosses) is  $\frac{2}{4}$ . Are they correct? Explain.
3. A fair die is rolled. Write  $P$  (prime) in F/T form and simplify it.
4. A fair die is rolled. Write  $P$  (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:  $P(\text{rolling a 1 on a fair die})$  or  $P(\text{drawing a club from a standard deck})$ ? Show enough working to justify.
- 16.** Which is smaller:  $P(\text{factor of 12 on a fair die})$  or  $P(\text{exactly one head in two coin tosses})$ ? 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.