Complementary Events

1 It will rain all day today.

2 This team has no chance of winning the final.

3 It is unlikely this car will break down.

4 The train is certain to arrive on time.

5 Its likely my next pizza will have mushrooms.

Use complementary events to answer some of these questions.

In the word HYPOTENUSE, find the fraction for:

6 $P(Y) = \dfrac{\square}{\square}$

7 $P(\widetilde{E}) = \dfrac{\square}{\square}$

8 $P(vowel) = \dfrac{\square}{\square}$

9 $P(\widehat{O,T,E}) = \dfrac{\square}{\square}$

A fund-raising raffle has sold 100 tickets which are numbered 1 to 100, one ticket is chosen, find the probability the ticket:

10 Will be numbered 70 or more. $\square$

11 Won't be 57. $\dfrac{\square}{\square}$

12 Will have a 5 as its last digit. $\square$

13 Won't end in zero. $\dfrac{\square}{\square}$

A coffee shop critic finds coffee could be too hot, too cold or perfect. Probability is $P(Hot) = 0.3$ and $P(cold) = 0.06$. Find as a percentage:

14 $P(\widehat{Hot}) =$ _____

15 $P(Perfect) =$ _____

16 $P(\widetilde{Cold}) =$ _____

17 $P(\widetilde{Perfect}) =$ _____

18 $P(\widetilde{Cold}) + P(Cold) =$ _____

19 $P(Perfect) - P(\widehat{Cold}) + P(Hot) =$

A fair die is rolled. Find the probability, as a fraction, for the following:

23 $P(2) = \dfrac{\square}{\square}$

24 $P(7) = \dfrac{\square}{\square}$

25 $P(1, 5) = \dfrac{\square}{\square}$

26 $P(Odd) = \dfrac{\square}{\square}$

27 $P(Prime) = \dfrac{\square}{\square}$

28 $P(\widetilde{<5}) = \dfrac{\square}{\square}$

29 $P(\widehat{0}) = \dfrac{\square}{\square}$

30 $P(\widetilde{3}) - P(3) = \dfrac{\square}{\square}$

Peter, Anne, Jerry and Deb are in a foot race. The odds of winning the event are: $P(Peter) = 0.1$, $P(Anne) = 0.27$. If Jerry is twice as likely to win when compared with Deb. Find the chance of:

31 Deb winning. _____

32 One of the boys winning. _____

33 Anne not winning. _____

34 Jerry or Anne not winning. _____