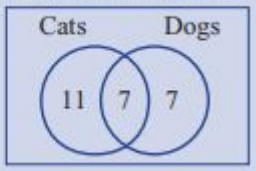
Solutions

Pre-test

1 This Venn diagram shows the number of people in a group of 25 who own cats and/or dogs.



a State the number of people who own:
i a dog ii a cat or a dog iii only a cat

b If a person is selected at random from this group, find the probability they will own:
i a cat ii a cat and a dog iii only a dog

a i 14 ii 25 iii 11

b i $\frac{18}{25}$ ii $\frac{7}{25}$ iii $\frac{7}{25}$

Arrange from lowest to highest: $\frac{1}{2}$, 0.4, 1 in 5, 39%, $\frac{3}{4}$, 1, 0, $\frac{9}{10}$, 0.62, 71%

0, 1 in 5, 39%, 0.4, $\frac{1}{2}$, 0.62, 71%, $\frac{3}{4}$, $\frac{9}{10}$, 1

A spinning wheel has 8 equal sectors numbered 1 to 8. On one spin of the wheel, find the following probabilities.

a Pr(5) b Pr(even) c Pr(not even)
d Pr(multiple of 3) e Pr(factor of 12) f Pr(odd or a factor of 12)
g Pr(both odd and a factor of 12)

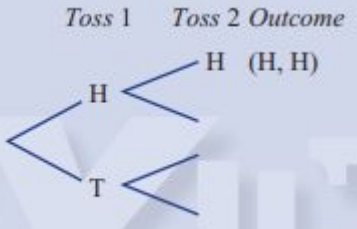
a $\frac{1}{8}$ b $\frac{1}{2}$ c $\frac{1}{2}$ d $\frac{1}{4}$
e $\frac{5}{8}$ f $\frac{7}{8}$ g $\frac{1}{4}$

Two coins are tossed.

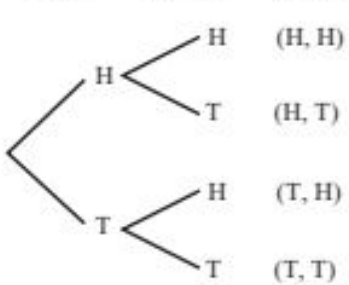
a Copy and complete this tree diagram.

b State the total number of outcomes.

c Find the probability of obtaining:
i 2 heads ii no heads iii 1 tail
iv at least 1 tail v 1 of each, a head and a tail
vi at most 2 heads



a



b 4

c i $\frac{1}{4}$ ii $\frac{1}{4}$ iii $\frac{1}{2}$

iv $\frac{3}{4}$ v $\frac{1}{2}$ vi 1