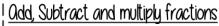
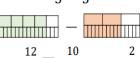
Maths at Southmoor Academy

3G- Probability – Stage 9



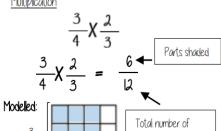




Use equivalent fractions to find a common multiple for

both denominators

Multiplication



parts in the diagram

Independent events

The outcome of two events happening. The outcome of the first event has no bearing on the outcome of the other

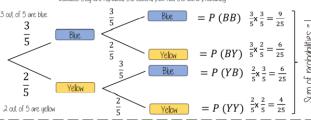
 $= P(A) \times P(B)$

Tree diagram for independent event

Isobel has a bag with 3 blue counters and 2 yellow. She picks a counter and replaces it before the second pick

P(A and B)

Because they are replaced the second pick has the same probability



<u>Tables, Venn diagrams, Frequency trees</u>

Frequency trees

60 people visited the zoo one Saturday morning 26 of them were adults. 13 of the adult's favourite animal was an elephant. 24 of the children's favourite animal was an elephant.

(26) 60 Elephant Frequency trees and twoway tables can show the same information

The total columns on twoway tables show the possible denominators

 $P(adult) = \frac{26}{60}$

P(Child with favourite animal as elephant) = $\frac{13}{27}$

Two-way table

	Odult	Child	Total
Elephant	13	24	37
Other	13	10	23
Total	26	34	60

Dependent events

Tree diaaram for dependent

The outcome of the first event has an impact on the second event

O sock drawer has 5 black and 4 white socks. Jamie picks 2 socks from the drawer.



NOTE: as "socks" are removed from the drawer the number of items in that drawer is also reduced : the denominator is also reduced for the second $P = P(WW) \frac{4}{9} \times \frac{3}{8} = \frac{12}{72}$

Relative Frequency

Frequency of event Total number of outcomes

Remember to calculate or identify the overall number of outcomest

Colour	Frequency	Relative Frequency
Green	6	0.3
Yellow	IJ	06
Blue	2	0.1
	20	

Relative frequency can be used to find expected

eg. Use the relative probability to find the expected outcome for green if there are 100 selections.

Relative frequency x Number of times $0.3 \times 100 = 30$

Venn diaaram



in set A OND set B

 $P(A \cap B)$



in set A OR set B

 $P(A \cup B)$



in set A

P(A)



NOT in set A

P(A')

Experimental data

Theoretical probabilitu

What we expect to happen

Experimental probability

What actually happens when we tru it out

completed the closer experimental probability and theoretical probability become

The more trials that are

The probability becomes more accurate with more trials. Theoretical probability is proportional

