

Suppose that purple flowers that are heterozygous are crossed with white flowers that are homozygous recessive for flower color.

P = purple

p = white

$Pp \times pp$

	p	p
P	Pp (purple)	Pp (purple)
p	pp (white)	pp (white)

a) What is the genotypic ratio of the offspring?

How many of type 1 : how many of type 2

$0 PP : 2 Pp : 2 pp \rightarrow 0 PP : 1 Pp : 1 pp$

b) What is the phenotypic ratio of the offspring?

2 purple: 2 white. $\rightarrow 1$ purple : 1 white

c) What is the probability that a child flower is purple?

Probability of A is the number of ways A can occur / total number of outcomes
(technically this is true if all outcomes are equally likely, which is the case for us)

$2 / 4 = 1 / 2$ (or 50%)