

Punnett Squares

Student Text pages 320–23

Name _____

A. Complete a Punnett square to explain each situation.

1. Both parents have one dominant gene for curly hair and one recessive gene for straight hair. Let H represent curly hair and h represent straight hair. What is the probability, or possibility, that one of their children will have curly hair?

	H	h
H	HH	Hh
h	Hh	hh

The probability of a curly-haired child is 3 out of 4, or 75%.

2. One parent has two dominant genes for an unattached earlobe. The other parent has two recessive genes for an attached earlobe. Let E represent unattached earlobes and e represent attached earlobes. What is the probability, or possibility, that one of their children will have attached earlobes?

	E	E
e	Ee	Ee
e	Ee	Ee

The probability of a child with attached earlobes is 0 out of 4, or 0%.

3. One parent has a dominant gene for a straight thumb and a recessive gene for a bent thumb. The other parent has two recessive genes for a bent thumb. Let T represent straight thumbs and t represent bent thumbs. What is the probability, or possibility, that one of their children will have a bent thumb?

	T	t
t	Tt	tt
t	Tt	tt

The probability of a child with a bent thumb is 2 out of 4, or 50%.

4. Both parents have a dominant gene for rolling the tongue and a recessive gene for not being able to roll the tongue. Let R represent rolling the tongue and r represent not being able to roll the tongue. What is the probability, or possibility, that one of their children will be able to roll his tongue?

	R	r
R	RR	Rr
r	Rr	rr

The probability of a child being able to roll his tongue is 3 out of 4, or 75%.

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