

## Quiz 07

A recent association rules study of consumers with infant children found the following raw data regarding the purchase of diapers and beer at grocery stores. Use this data to answer the questions below.

		Bought Beer?	
		Yes	No
Bought Diapers?	No	15,000	10,000
	Yes	60,000	15,000

(1 pt.) What is the support of the rule **Beer → Diapers** ?

$60,000/100,000 = 60\% = 0.6$

(1 pt.) **True or false:** the support of the rule **Beer → Diapers** and the rule **Diapers → Beer** are *always* equal?

True

(2 pts.) What is the confidence of the rule **Beer → Diapers** ?

$60,000/75,000 = 80\% = 0.8$

(1 pt.) **True or false:** the confidence of the rule **Beer → Diapers** and the rule **Diapers → Beer** are *always* equal?

False

(1 pt.) What is the expected confidence of the rule **Beer → Diapers** ?

$75\% = 0.75$

(2 pts.) What is the lift of the rule **Beer → Diapers** ?

$0.8/0.75 = 1.06 = 106\%$

(1 pt.) Do we expect consumers with infants who purchase beer to also purchase diapers?

Yes. (Lift is greater than 1.)

(1 pt.) Name a business application of this rule. (Take into account not everyone is legally allowed to buy beer.)

Any of: put them closer together in the store, put them far apart in the store, raise the price on one - lower it on the other, do not advertise them together.