Production Possibilities and Efficiency

Given a set of finite resources and a state of technology, the alternative sets of yawls and xebecs that can be produced are shown in Figure 1. Any production alternative that lies on or "inside" the Production Possibilities function (PPF) is feasible. Those alternatives or combinations that lie outside the PPF are not possible given the current level of inputs and technology. A series of output combinations have been identified and labeled A through M. A firm or agents within an economy can shift production from one alternative or output combination to another by altering the allocation of land (R), labour (L) or capital (K) from one production process to another.
The production alternatives labeled in Figure 1 are shown in Table 1.

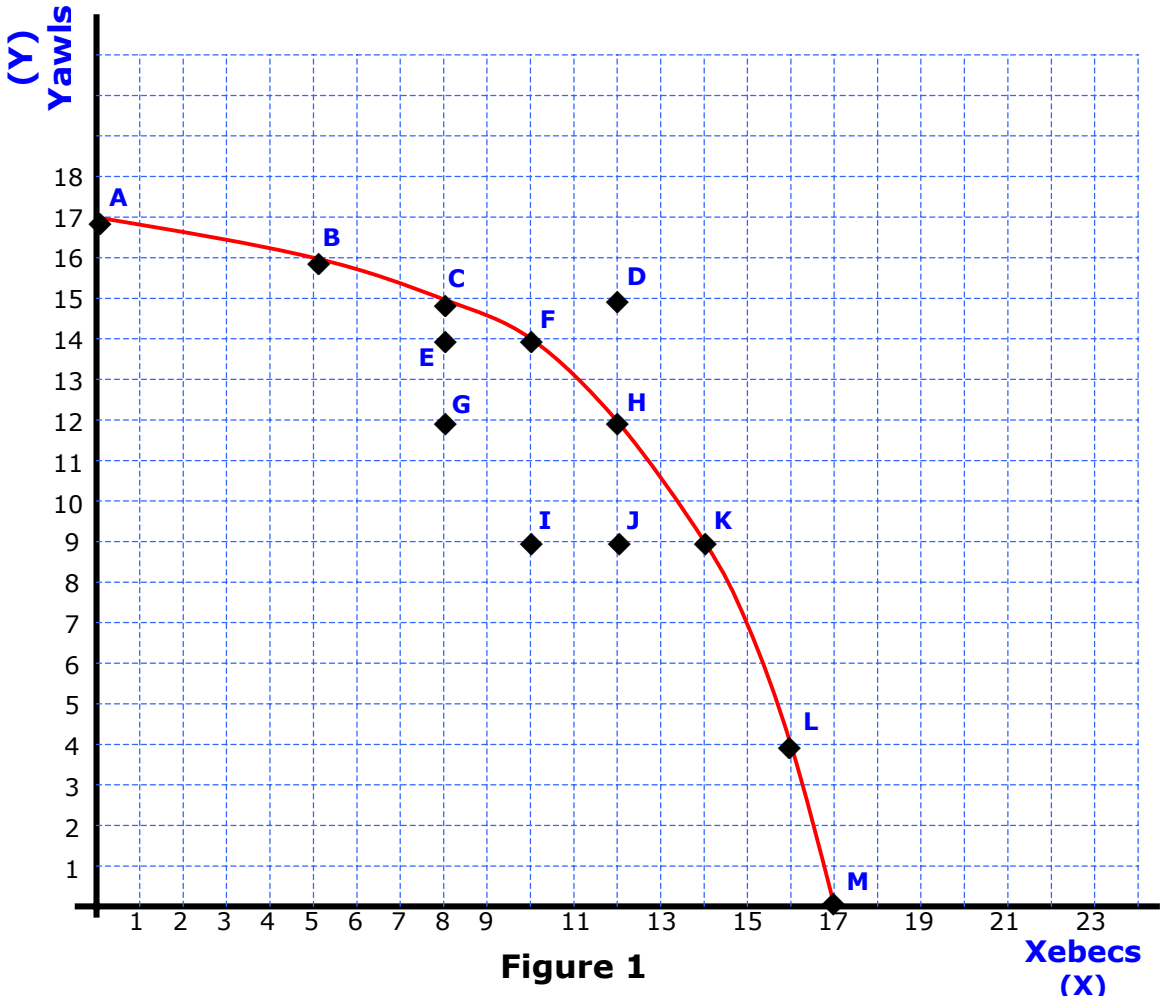

Figure 1

Questions:

1. Which alternative(s) are not possible?
2. Which alternatives are "technically inefficient"
3. If you were producing alternative G (Q_X = 8, Q_Y =13) and the price of Xebecs (P_X) was $3 and the price of Yawls (P_Y) were $1, How could your reallocate the inputs to increase the value of the output?
4. If you reallocated inputs to produce at alternative E, What is the marginal benefit? The marginal cost?
5. If you reallocated inputs to produce at alternative J, what are the marginal benefits? The marginal costs?
6. Is alternative J "efficient?"
7. When the price of Xebecs (P_X) is $3 and the price of Yawls (P_Y) is $1, What alternative or output combination will maximize the value of the output?

8. If the price of Xebecs (P_X) were \$2 and the price of Yawls (P_Y) were \$.90 which alternative would have the greatest value?
9. If the price of Yawls (P_Y) increased to \$2 (and the Price of Xebecs, PX remained at \$2), what output combination would maximize the value of the output? (Notice that the inputs would be allocated to their "highest valued" use.)

Open Excel

Table 1 - Prices and PPF

Alternative	Xebecs (Q_X)	Value of Q_X	Yawls (Q_Y)	Value of Q_Y	Value of Alternative
A	0		17		
B	5		16		
C	8		15		
D	Not Possible				
E	8		14		
F	10		14		
G	8		12		
H	12		12		
I	10		9		
J	12		9		
K	14		9		
L	16		4		
M	17		0		
	P_X =		P_Y =		