

Econ 0100 | Fall 2024 | Homework A

Due: Wednesday, Sept. 4

Homework is designed to both test your knowledge and challenge you to apply familiar concepts in new applications. Answer clearly and completely; use this sheet to show your work so you can later understand your thought process; you are welcomed and encouraged to work in groups as long as your work is your own. Submit your work on Gradescope when you're finished.

The Hogsmeade Candy Shop Saga

Honeydukes and Zonkos are two candy shops in Hogsmeade. Both shops make two types of popular candy, Chocolate Frogs (F) and Ice Mice (M). Honeydukes, devoting all their resources to either good, can make 100 pounds of F or 75 pounds of M . Zonkos can make 200 pounds of F or 100 pounds of M .

Construct a Production Table and an Opportunity Cost Table in the space below to keep track of your work as you move through the questions.

	F	M
H	100	75
Z	200	100

$$\begin{aligned}
 100F &= 75M \\
 1F &= \frac{75}{100}M \\
 1F &= \frac{3}{4}M \\
 \hline
 200F &= 100M \\
 1F &= \frac{1}{2}M
 \end{aligned}$$

	F	M
H	$\frac{3}{4}M$	$\frac{4}{3}F$
Z	$\frac{1}{2}M$	2F

Q1. Absolute Advantages

Which shop has the absolute advantage in Chocolate Frogs?

Zonkos

Which shop has the absolute advantage in Ice Mice?

Zonkos

Q2. Honeydukes' Opportunity Costs

What is Honeydukes' opportunity cost of 1 pound of Chocolate Frogs?

 $\frac{3}{4}M$

What is Honeydukes' opportunity cost of 1 pound of Ice Mice?

 $\frac{4}{3}F$

Q3. Zonko's Opportunity Costs

What is Zonko's opportunity cost of 1 pound of Chocolate Frogs?

 $\frac{1}{2}M$

What is Zonko's opportunity cost of 1 pound of Ice Mice?

2F

Q4. Comparative Advantage

Which shop has the comparative advantage in Chocolate Frogs?

Zonkos

Which shop has the comparative advantage in Ice Mice?

Honeydukes

Q5. Attainability

Zonko's investors at Gringots bank, a famously reliable institution, asked the candymaker to produce a total of $100F$ and $100M$.

50M

With Zonkos' current technology and labor, is this level of production attainable?

No

Q6. Changes in Labor and Technology

Gringots decides to fund Zonko's purchase of a more capable Ice Mice machine, doubling Zonkos Ice Mice production. At the same time Honeydukes tripples their labor hours, trippling their productive capacity. Construct an updated Production Table and Opportunity Cost Table in the space below to help in answering the following questions.

	F	M
H	300	225
Z	200	200

$300F = 225M$
 $100F = 75M$
 $1F = 1M$
 $200F = 200M$

	F	M
H	$\frac{3}{4}M$	$\frac{4}{3}F$
Z	1M	1F

After the change in technology and labor:

Which shop has the absolute advantage in Chocolate Frogs?

Honeydukes

Which shop has the absolute advantage in Ice Mice?

Honeydukes

What is Honeydukes' opportunity cost of 1 pound of Chocolate Frogs?

$\frac{3}{4}M$

What is Honeydukes' opportunity cost of 1 pound of Ice Mice?

$\frac{4}{3}F$

What is Zonko's opportunity cost of 1 pound of Chocolate Frogs?

1M

What is Zonko's opportunity cost of 1 pound of Ice Mice?

1F

Which shop has the comparative advantage in Chocolate Frogs?

Honeydukes

Which shop has the comparative advantage in Ice Mice?

Zonkos