Show all calculations for full credit.

1. Open economy model

Suppose that the good market is represented by the following behavioral equations.

\[
\begin{align*}
C &= 500 + 0.5Yd \\
I &= 500 - 2000r + 0.1Y \\
G &= 500 \\
T &= 400 \\
X &= 0.1Y^* + 100e \\
Q &= 0.1Y - 100e \\
Y^* &= 1000 \\
r &= 0.05 \text{ (5\%)} \\
e &= 1 \\
Y &= Z \text{ in equilibrium} \\
Z &= C + I + G + X - eQ
\end{align*}
\]

\(e\) is real exchange rate - \(r\) is interest rate - \(Y^*\) is foreign income - \(Yd\) is disposable income (the other variables are the usual ones)

a. Calculate equilibrium \(Y\)

\[
Y = \frac{\text{Equilibrium equation}}{	ext{Solve for } Y}
\]
b. Given your answer in a., calculate C, I, X and Q.

C = ________________

I = ________________

X = ________________

Q = ________________

c. At this level of output, is the economy experiencing

   a trade deficit   or   a trade surplus   or   balanced trade?

Calculate it:

NX = ________________ (specify the sign)

d. Suppose that G increases by 100 (to 600), calculate the new level of output.

Y = ________________

What is the size of the multiplier?

m = ________________
Based on your answer in d., calculate the new level of Q.

Q = ________________

Calculate the change in net exports caused by the increase in G.

Δ NX = ________________ (specify the sign)

Repeat a. - d. assuming that the marginal propensity to import increases to .2 (all the other variables remain the same). Comment on the change in the size of the multiplier.

a. Calculate equilibrium Y

Y = ________________

b. Given your answer in a., calculate C, I, X and Q.

C = ________________

I = ________________

X = ________________

Q = ________________
c. At this level of output, is the economy experiencing a

a trade deficit or a trade surplus or balanced trade?

(Calculate it)

NX = ______________ (specify the sign)

d. Suppose that G increases by 100 (to 600), calculate the new level of output.

Y = ______________

What is the size of the multiplier?

m = ______________

2. Foreign repercussions problem.

Assume that initially the goods market for an open economy A is in equilibrium and this corresponds to a trade deficit. What is the effect of a fiscal contraction by its trade partner (economy B) on the following variables in economy A:

A's exports: increases decreases stays the same undetermined

demand for A's domestic goods: increases decreases stays the same undetermined

A's imports: increases decreases stays the same undetermined

A's net exports: increases decreases stays the same undetermined