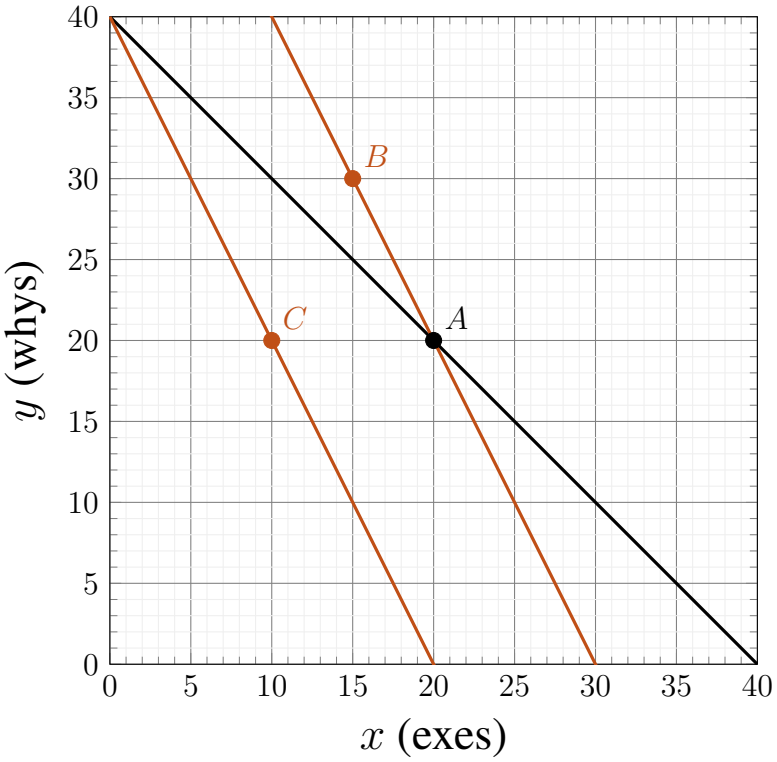
Quiz 6 - SOLUTION

János only consumes two goods, *exes* and *whys*. We do not know much about his preferences, but we can safely assume that they are well-behaved and strictly convex. Up until recently, while the price of *exes* and *whys* has been $\$4$ per unit, János has been consuming 20 units of each good. The graph below shows János's budget line and his "original" consumption bundle (A).



Unfortunately (for János) the price of *exes* has doubled (while the price of *whys* has remained $\$4$). János has reacted to the price change by reducing his consumption of *exes* to 10 units.

- On the graph above, draw János's new budget line and mark his "new" consumption bundle by C.
- How much extra income should János have in order to be able to afford the original bundle after the price change? $\Delta p_x \cdot 20 = 80$

We happen to know that János would consume exactly 15 units of *exes* if he had that much extra income.

- On the graph above, draw János's budget line assuming that he receives exactly that much extra income and mark his hypothetical consumption bundle by B.
- Would it be possible that János's hypothetically-chosen bundle B lies on the lower part of the budget line (somewhere between bundle A and the horizontal axis)? Why?

  No. Note that the lower part of the hypothetical budget line is located in János's original budget set and it goes through bundle A. Given that, in the original situation, János chose bundle A over all other affordable bundles, he revealed A to be preferred to all bundles located on the lower part of the hypothetical budget line in question.

- Let us summarize the effect of the increase in the price of *exes*.
  - How much is the **total change** in János's demand for *exes*? -10
  - How much of this change is due to the **substitution effect**? -5
  - How much of this change is due to the **income effect**? -5