

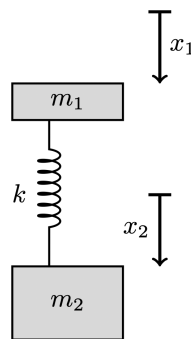
Free-Body Diagrams

With springs and dashpots

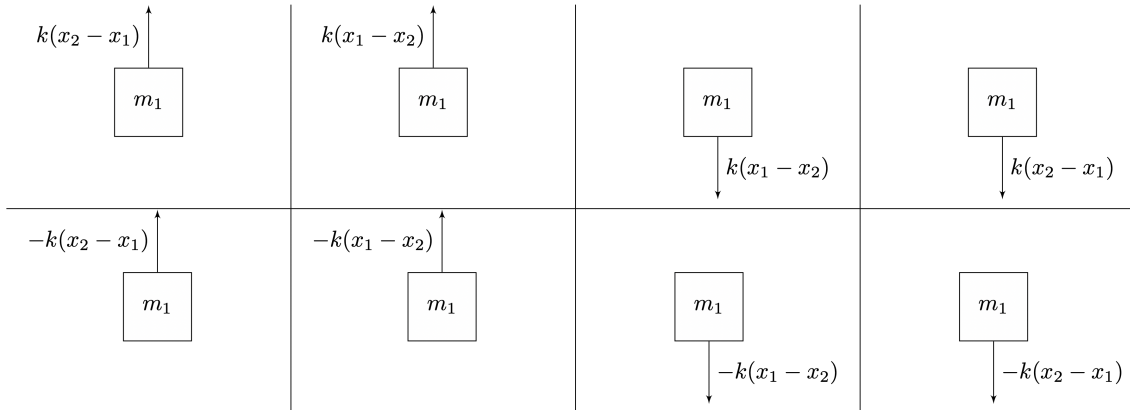
Practice with drawing correct free body diagrams

Springs

Consider the diagram shown below. At $x_1 = x_2 = 0$, the spring is at rest length.

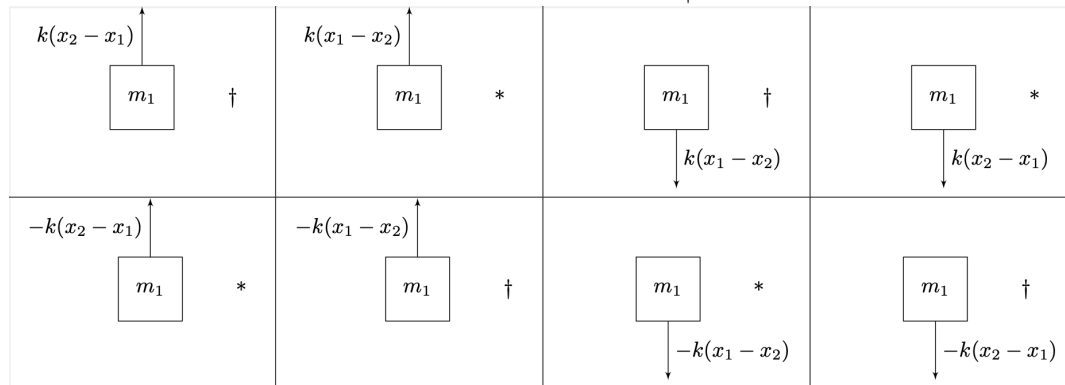


Which of the following are correct free body diagrams of m_1 and which ones are incorrect?

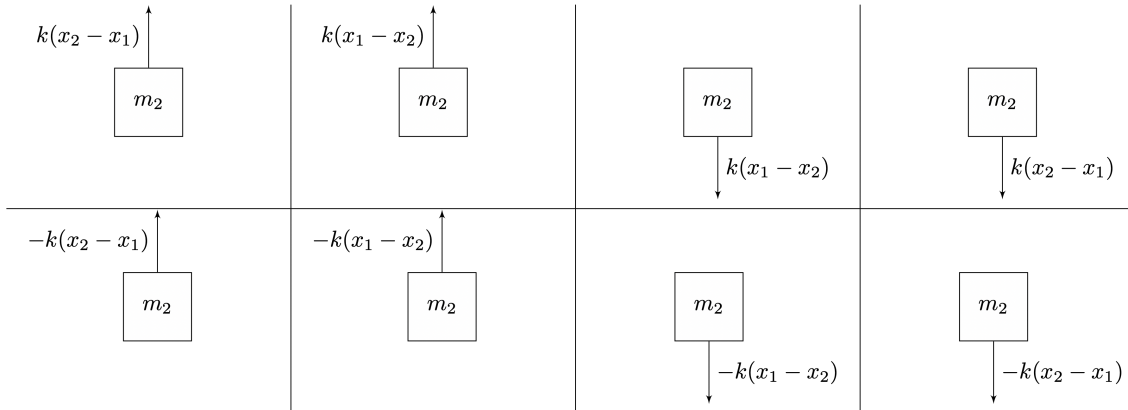


Answers

The ones marked * are correct and the ones marked † are incorrect.

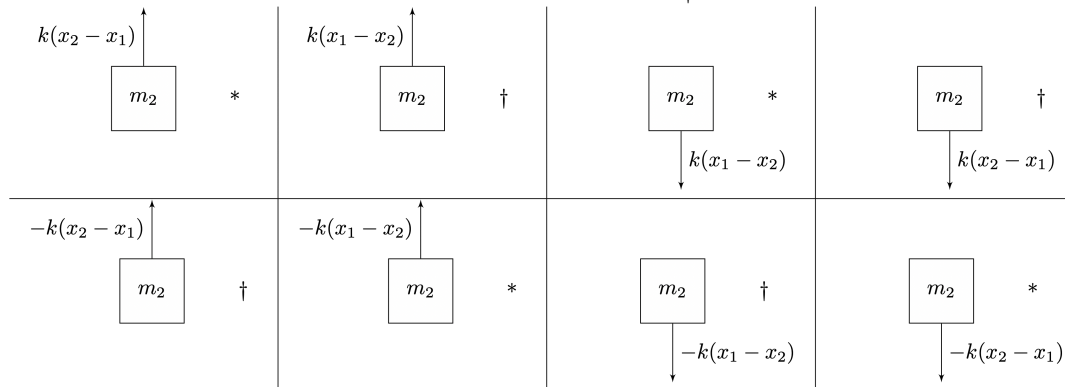


Which of the following are correct free body diagrams of m_2 and which ones are incorrect?



Answers

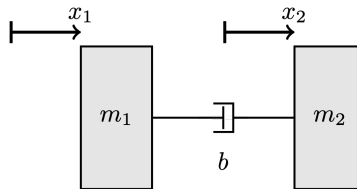
The ones marked * are correct and the ones marked † are incorrect.



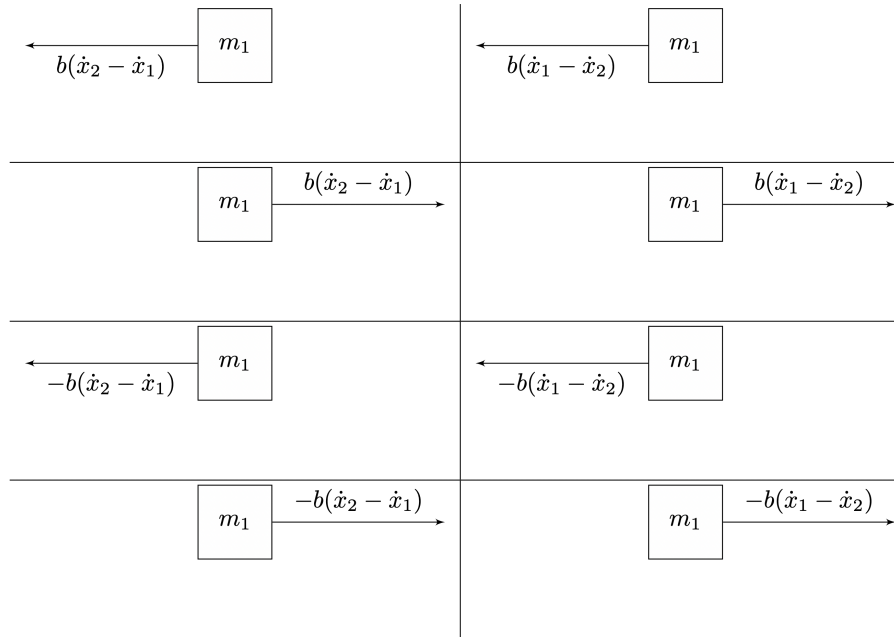
Dashpots/Dampers

Consider the diagram shown below.

For each question, four of the given FBDs are identical to each other, and the other four are identical with each other as well. Assign each of the diagrams to category 1 or to category 2, such that all the diagrams within category 1 are identical and all the diagrams within category 2 are identical. Decide which category is the correct one.

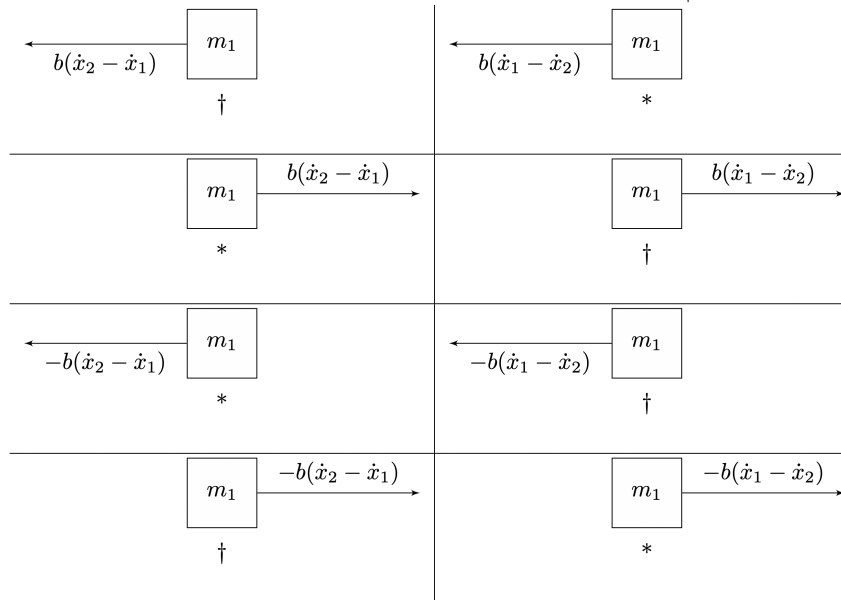


Which of the following are correct free body diagrams of m_1 and which ones are incorrect?

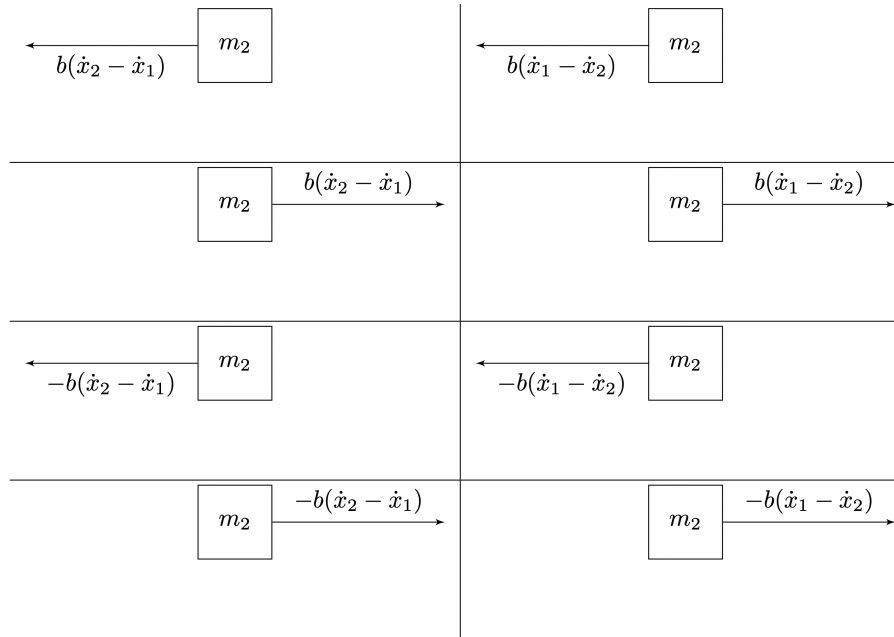


Answers

The ones marked * are correct and the ones marked † are incorrect.



Which of the following are correct free body diagrams of m_2 and which ones are incorrect?



Answers

The ones marked * are correct and the ones marked † are incorrect.

