

STEP II, 2020, Q10 EC

This was the least popular question on the paper and was found to be quite difficult by those who did attempt it.

It is very useful in questions of this type to produce a good sketch of the situation described and, unfortunately, many attempts did not do this. The candidates who made good progress did tend to have good diagrams.

When resolving forces, it is useful to consider the different directions that could be chosen. In the case of this question, many candidates chose to resolve horizontally and vertically and as a result produced more complicated equations to deal with. While in most cases they were able to simplify the equations that they obtained, this method did result in more work than was necessary. When dividing equations and inequalities by expressions, candidates should be careful to consider whether the expressions are known to be non-zero (and in the case of inequalities that it is known whether it is positive or negative).

In the second part of the question, candidates struggled with the more complicated algebraic expressions that had to be manipulated and many candidates gave up before reaching the end of the question.



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