Questions: Vector addition and scalar multiplication

Renee Knapp, Kin Wang Pang

A selection of questions for the study guide on vector addition and scalar multiplication.

*Before attempting these questions, it is highly recommended that you read* [*Guide: Vector addition and scalar multiplication*](../studyguides/addandsm.qmd)*.*

## Q1

Answer the following questions.

1.1. If and , find .

1.2. If and , find .

1.3. If and , find .

1.4. If , and , find .

## Q2

Solve the following, expressing your answers in terms of the unknown scalars .

2.1. If and , find .

2.2. If and , find .

2.3. If , and , find .

2.4. If , what is ?

## Q3

Answer the following questions.

3.1. If , find .

3.2. If , find .

3.3. If and , find .

3.4. If , and , find .

## Q4

Answer the following questions.

4.1. If . , find .

4.2. If , and , find .

4.3. If and , find the coordinates of .

4.4. If and , find in terms of and .

4.5. If , and , solve for the unknown scalars .

4.6. Given that and are parallel, if and , find .

[After attempting the questions above, please click this link to find the answers.](../answers/as-addandsm.qmd)

## Version history and licensing

v1.0: initial version created 08/23 by Renee Knapp, Kin Wang Pang as part of a University of St Andrews STEP project.

* v1.1: edited 05/24 by tdhc.

[This work is licensed under CC BY-NC-SA 4.0.](https://creativecommons.org/licenses/by-nc-sa/4.0/?ref=chooser-v1)