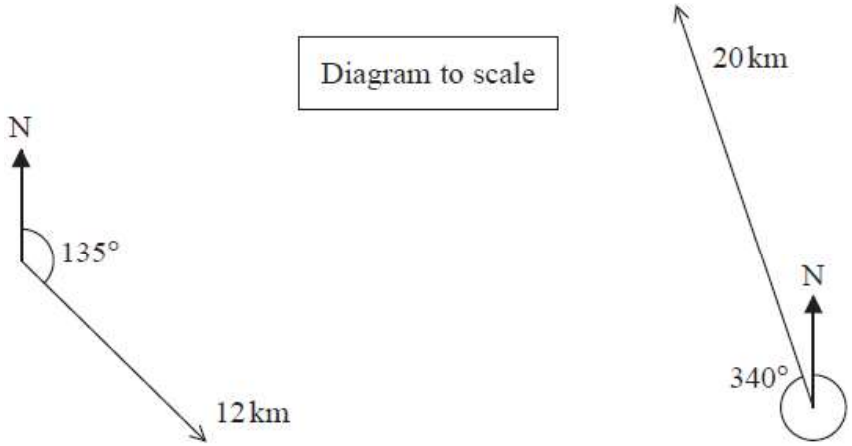
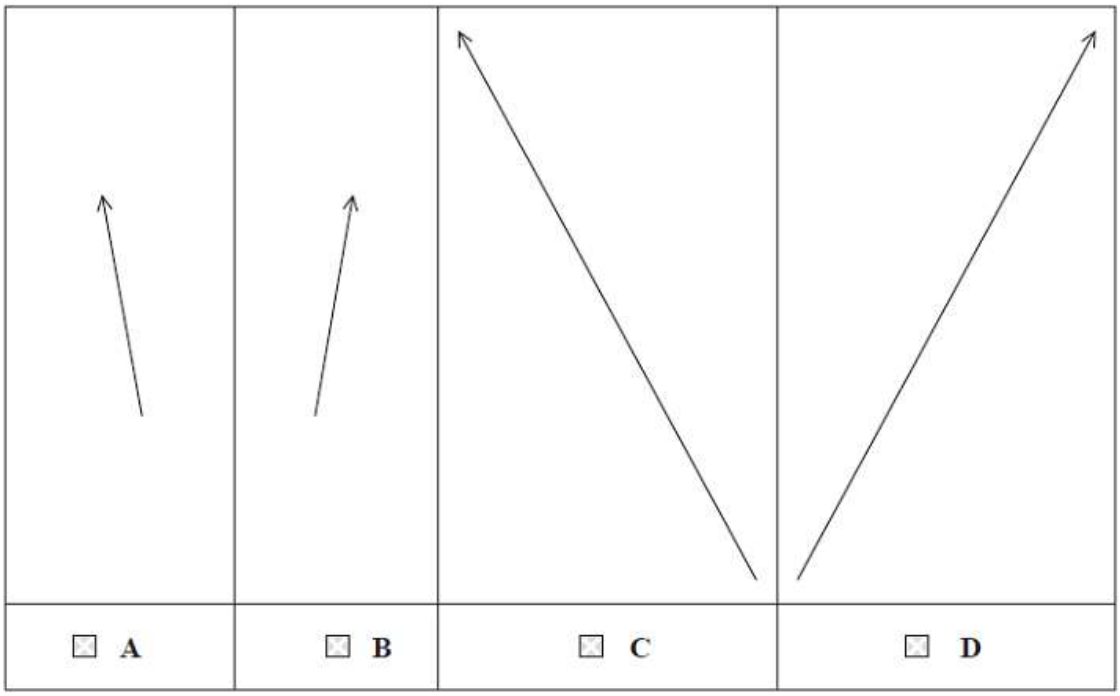
Q1.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

A student walked 12 km on a bearing of 135° and then walked 20 km on a bearing of 340° as shown.



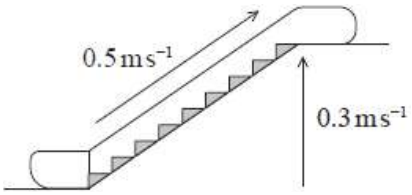
Which of the following could represent the final displacement of the student from his starting point?



(Total for question = 1 mark)

Q2.

The steps on an escalator move with a speed of 0.5 m s^{-1}. The vertical component of their velocity is 0.3 m s^{-1} upwards.



Which of the following is the horizontal component of velocity for the escalator steps?

(1)

☐ **A** 0.2 m s^{-1}

☐ **B** 0.4 m s^{-1}

☐ **C** 0.5 m s^{-1}

☐ **D** 0.8 m s^{-1}

(Total for question = 1 mark)

Q3.

Which of the following is a vector quantity?

☐ **A** work done

☐ **B** time

☐ **C** temperature

☐ **D** displacement

(Total for question = 1 mark)

Q4.

The diagrams below show the velocity of an object before and after a force is applied.

The magnitude of the velocity did not change.

before after

Which of the following arrows represents the direction of the change in velocity?

A B C D

☒ **A**

☒ **B**

☒ **C**

☒ **D**

(Total for question = 1 mark)

Q5.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Quantities in physics are classified as either vectors or scalars.

Which of the following units could **only** be used for a scalar quantity?

☒ **A** $m\ s^{-1}$

☒ **B** $m\ s^{-2}$

☒ **C** $kg\ m\ s^{-2}$

☒ **D** $kg\ m^{-3}$

(Total for question = 1 mark)