AQA GCSE Combined Science - Trilogy | 8464

SPECIFICATION POINT 6.5.4.2.3

Newton's Third Law

Mark schemes and examiner comments

Tier	**Foundation**
Question groups	**1**
Available paper years	**2025–2025**

Using this booklet

1. Booklet answer numbers match the question booklet.
2. Use the original question number within marking tables.
3. Examiner comments are included where available.

Name: _____ **Date:** _____

Where a precise marking extract is unavailable, the full source document is included in an appendix. Any missing mark scheme is explicitly identified.

6.5.4.2.3 Newton's Third Law

Answer 01 · Mark scheme

June 2025 | 8464/P/2F | Original Q6

Question 6

Question	Answers	Extra information	Mark	AO / Spec. Ref.
06.1	distance travelled = speed × time		1	AO1 6.5.4.1.2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
06.2	1 500 000 = v × 670 000 $v = \frac{1\ 500\ 000}{670\ 000}$ V = 2.2… (m/s)		1 1 1	AO2 6.5.4.1.2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
06.3	F = (6 × 370) - 520 F = 1700 (N)	if no other mark awarded allow **1** mark for 370 - 520 = (-)150 (N)	1 1	AO2 6.5.1.4

Question	Answers	Extra information	Mark	AO / Spec. Ref.
06.4	speed	allow velocity	1	AO1 6.5.4.1.4

Question	Answers	Extra information	Mark	AO / Spec. Ref.
06.5	friction + air resistance = pull of the rope on the sled		1	AO1 6.5.1.4 6.5.4.2.1

Question	Answers	Extra information	Mark	AO / Spec. Ref.
06.6	the force of the sled on the rope		1	AO1 6.5.4.2.3

Total Question 6	9

6.5.4.2.3 Newton's Third Law

Answer 01 · Examiner comments

June 2025 | 8464/P/2F | Original Q6

Question 6 (Standard demand)

06.1 Approximately 90% of students were either able to recall the equation linking distance, speed and time, or used the Physics Equations Sheet to look it up.

06.2 Nearly two thirds were able to correctly rearrange the equation selected and arrive at the correct answer. This was perhaps aided by some students recalling the equation as 'speed = distance / time' and arriving at the correct answer using this memorised form of the equation rather than by re-arranging the equation they selected in the previous question.

0 6 . 2 The longest dog-sled race in the world covers a distance of 1 500 000 m.