BrightRED Revison Cards

N5
PHYSICS

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PUBLISHING

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BRIGHT RED REVISION CARDS

These revision cards are packed full of great National 5 Physics questions, diagrams, illustrations, answers and tips to help you to actively test your knowledge and ramp up your revision.

Each card covers a course topic which offers a mixture of multiple-choice and exam-style questions. Answers and explanations with key pointers are on the reverse.
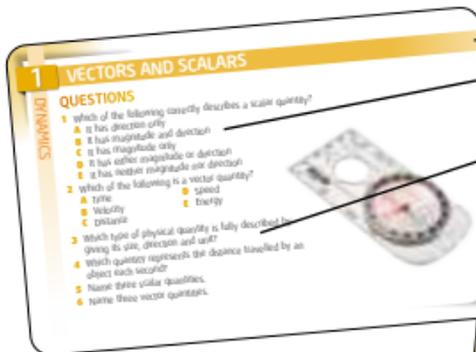
- All key course topics covered in order
- Multiple-choice questions to get things going
- Exam-style questions to follow up
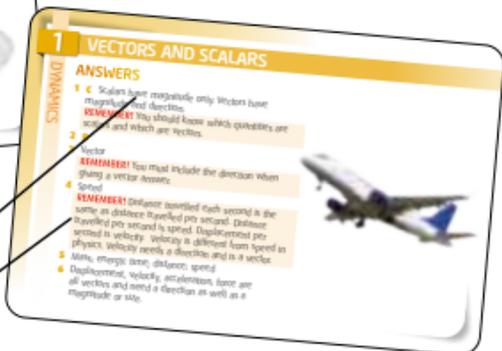
- Answers with short explanations
- **REMEMBER!** tips to shine a light on any harder concepts or questions

HOW TO USE

You can test yourself alone or with friends and should do so at spaced intervals when you feel confident about the topics you have studied. You can use the cards in any order to vary your approach and can shuffle the pack to mix things up a little bit!

QUESTIONS

1 Two forces act on an object as shown.
The size of the resultant force acting on the object is

A	3.0 N	D	47.4 N
B	30.0 N	E	60.0 N
C	42.4 N		

15.0 N ⟵ [object] ⟶ 45.0 N

2 At a shopping centre, a student starts at the entrance to the centre and walks around inside the centre as shown below and arrives back at the entrance.
Which row shows the total distance walked and the magnitude of the final displacement?

	Total distance (m)	Final displacement (m)
A	0	215
B	0	560
C	280	215
D	560	0
E	560	560

Student starts here

Entrance

200 m

80 m

80 m
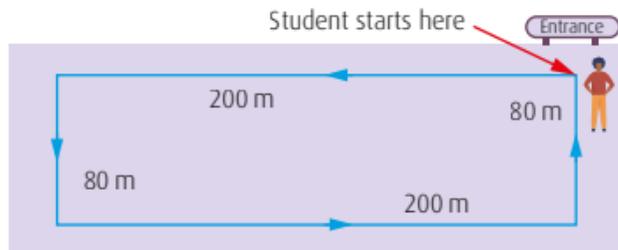
200 m

3 Two forces act horizontally on an object as shown.
Determine the resultant force.

6 N ⟵ [object] ⟶ 14 N

DYNAMICS

ANSWERS

1 B 45.0 N − 15.0 N = 30.0 N

2 D Total distance travelled = 200 m + 80 m + 200 m + 80 m = 560 m
Final displacement is the distance from start position to finish position.
As Start position and Finish are the same point then the overall or total displacement = zero
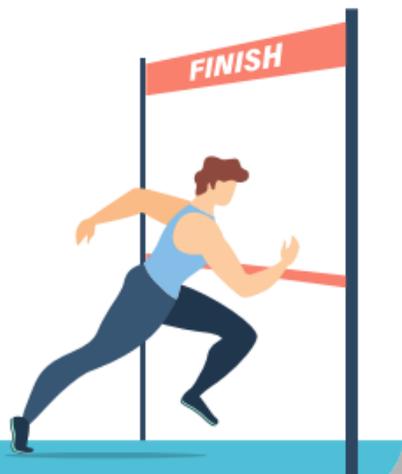As the answer is zero (or 0 m) there will be no displacement in this case.

3 8 N
The resultant force will be to the right as 14 N > 6 N
The magnitude of the resultant force = 14 − 6 = 8 N
So resultant force = 8 N to the right.

FINISH

QUESTIONS

1 An arrow is fired horizontally from a bow. Air resistance is negligible.
A student makes the following statements about the flight of the arrow:
I   The horizontal speed of the arrow remains constant during the flight
II The vertical speed of the arrow remains constant during the flight
III The horizontal distance travelled by the arrow depends on its horizontal speed
Which of the statements is/are correct?

A I only	**C** III only	**E** I and III only
B II only	**D** I and II only	

2 A football is kicked from the edge of a cliff. Air resistance is negligible.
Which of the following statements about the ball is/are correct?
I   The vertical force on the ball increases as it falls
II The vertical speed of the ball increases as it falls
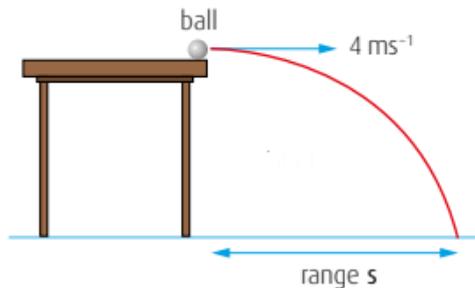III The vertical acceleration of the ball remains
     constant as it falls

ball

4 ms⁻¹

range **s**

A I only	**D** II and III only
B II only	**E** I, II and III
C I and II only	

3 A ball is rolled off a desk at $4\,\text{ms}^{-1}$. The ball reaches the
ground after a time of $0.5\,\text{s}$. Calculate the range s of the ball.

ANSWERS

1 E

> **REMEMBER!** On the National 5 course, only projectiles which have been launched horizontally will be considered.

2 D

> **REMEMBER!** The time of flight for a projectile is the same for horizontal and vertical motion.
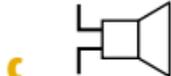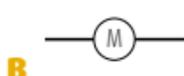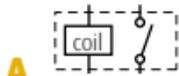
3 2 m

$s = v \times t$

$\quad = 4 \times 0.5$

$\quad = 2\,m$

QUESTIONS

1 Which of the following is the correct symbol for a loudspeaker?

A   **B**   **C**   **D**   **E**

2 Three students make the following statements about transistors.
I They are electronic switches
II They operate when their input voltage reaches a certain value
III They do not require any input voltage
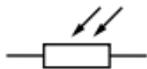Which of the statements is/are true?

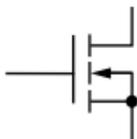**A** I only   **B** II only   **C** III only   **D** I and II only   **E** I and III only

3 The following is the symbol for an electronic component:

State which component the symbol represents.

4 The following is the symbol for an
electronic component:
State which component the
symbol represents.

ANSWERS

1 C

2 D

> **REMEMBER!** The transistor will switch on a device, or even a separate circuit, when its input voltage is above a given value. The bipolar transistor switches on when the input voltage is above 0.7 V. The MOSFET transistor switches on when the input voltage rises above approximately 2 V.

3 Light dependent resistor (LDR)

4 MOSFET (metal oxide field effect transistor)