ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY HIGHER · UNIT 14 · 25 QUESTIONS

# Forces — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button so it can be fixed.

**1** **A wristwatch measures time. What is the unit of time?**

- A the hour
- B the minute
- C the second
- D the day

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**2** **Hardcover books have mass. What is mass measured in?**

- A joules
- B watts
- C kilograms
- D newtons, the unit of force

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3 **A ladder leans against a wall. What force keeps it from slipping?**

- A friction
- B air resistance
- C tension
- D gravity

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4 **A Ferris wheel turns. What force keeps a person moving in a circle?**

- A gravity only, pulling them down
- B centripetal force
- C friction only, gripping the seat
- D air resistance pushing them back

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5 **A basketball bounces. What type of energy is stored when the ball squashes?**

A elastic potential

B thermal

C kinetic

D gravitational potential

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6 **A rocket in space has no air around it. What happens to air resistance?**

A it stays the same

B there is none

C it increases

D it becomes gravity

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**7** **An object speeds up from 5 m/s to 15 m/s in 10 seconds. What is its acceleration?**

- **A** 2 m/s²
- **B** 0.5 m/s²
- **C** 10 m/s²
- **D** 1 m/s²

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**8** **A passenger train travels at a steady speed. What is its acceleration?**

- **A** 9.8 m/s²
- **B** 1 m/s²
- **C** 10 m/s²
- **D** 0 m/s²

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9 **A car goes around a roundabout at a steady speed. Is the car accelerating?**

- A no, it is not moving at all
- B yes, its speed is increasing quickly
- C no, its speed is steady and unchanging
- D yes, its direction is changing

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10 **A force of 100 N acts on an area of 2 square metres. What is the pressure?**

- A 100 Pa
- B 25 Pa
- C 50 Pa
- D 55 Pa

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11 **A red race car travels at a steady speed. What is the resultant force on the car?**

- A 500 N
- B 100 N
- C 0 N
- D 1000 N

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12 **A cardboard box is full of books. What is its mass like?**

- A the same as when empty
- B smaller than when empty
- C larger than when empty
- D zero

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13 **What force is needed to accelerate a 5 kg object at 3 m/s squared?**

- A 20 N
- B 7.5 N
- C 15 N
- D 30 N

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14 **A kite is held by a string. What force does the string exert?**

- A gravity
- B friction
- C tension
- D air resistance

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15 **A tennis ball is hit across a court. Which force slows the ball down in the air?**

- A air resistance
- B the hit
- C gravity
- D friction with the ground

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16 **A bicycle has brakes. What do the brakes do to kinetic energy?**

- A turn it into light and sound
- B transfer it to heat
- C store it
- D destroy it

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17 **A 2 kg trolley moves at 3 m/s. What is its momentum?**

- A 11 kg m/s
- B 3 kg m/s
- C 12 kg m/s
- D 6 kg m/s

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18 **What is the momentum of a 5 kg object moving at 4 m/s?**

- A 40 kg m/s
- B 9 kg m/s
- C 10 kg m/s
- D 20 kg m/s

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19 **A spring has a spring constant of 20 N/m. It is stretched by 10 cm. What is the force?**

- A 1 N
- B 2.5 N
- C 2 N
- D 4 N

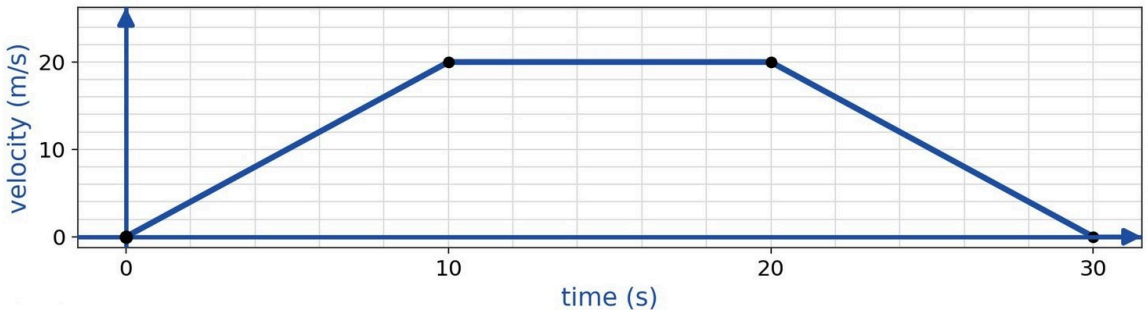
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20 **What is the weight of a 10 kg object on Earth? Use g = 10 N/kg.**

- A 200 N
- B 100 N
- C 10 N
- D 50 N

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**21** **The graph shows a velocity-time graph. What is the acceleration in the first 10 seconds?**




A 2 m/s²

B 10 m/s²

C 0 m/s²

D 20 m/s²

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22 **A force of 400 N acts on an area of 2 square metres. What is the pressure?**

- A 100 Pa
- B 200 Pa
- C 800 Pa
- D 400 Pa

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23 **A skydiver falls and reaches terminal velocity. What is true about the forces on the skydiver?**

- A they are balanced
- B there are no forces at all
- C drag is bigger than weight
- D weight is bigger than drag

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24 **Two identical springs are stretched by the same force. How do their extensions compare?**

A both stretch to zero

B one does not stretch at all

C they are the same

D one stretches twice as far

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25 **A wooden footbridge crosses a stream. What force pulls the bridge down?**

A gravity

B tension

C upthrust

D friction

Understand It with Pulse | Flag a mistake

# ANSWER KEY

| | | | | | |
|---|---|---|---|---|---|
| **1.** | C | **10.** | C | **19.** | C |
| **2.** | C | **11.** | C | **20.** | B |
| **3.** | A | **12.** | C | **21.** | A |
| **4.** | B | **13.** | C | **22.** | B |
| **5.** | A | **14.** | C | **23.** | A |
| **6.** | B | **15.** | A | **24.** | C |
| **7.** | D | **16.** | B | **25.** | A |
| **8.** | D | **17.** | D | | |
| **9.** | D | **18.** | D | | |

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