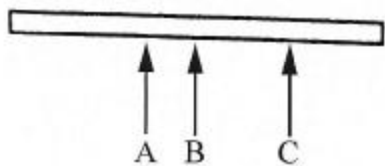


This section aims to find out whether you can easily understand how things work and function.

Each question has a diagram by it, from which the answer can be worked out. After each question there is a choice of answers. Only one is correct. When you think you have found the correct answer, please indicate your choice by putting a circle around it. An example is shown below.

The section should not take any more than 10 minutes. Please try to answer all the questions as quickly and as accurately as you can, and then enter the *total time taken to complete this section* in the box at the end.

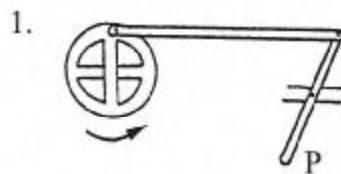
Example



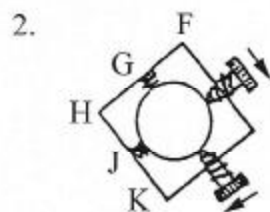
Which arrow will balance the beam?
 (a) A (b) B (c) C (d) all equal

NOTE THE TIME BEFORE YOU START!

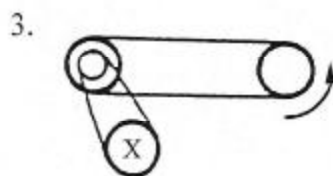
Questions



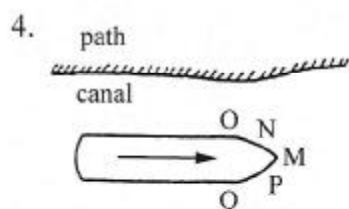
If the wheel rotates as shown, P will
 (a) move to the right and stop
 (b) move the left and stop
 (c) move to and fro
 (d) none of these



When the two screws are turned the same amount as shown, the ball will move towards
 (a) F (b) G (c) H (d) J (e) K

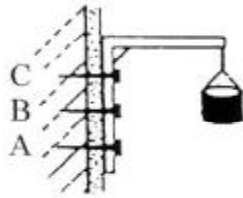


Which way does wheel X move?
 (a) either (b) (c) (d) stays still

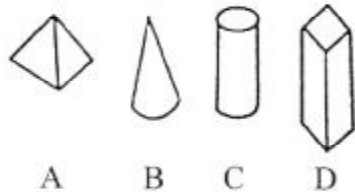


To move the boat easily in the direction shown, the rope would be best attached to
 (a) M (b) N (c) O (d) P (e) Q

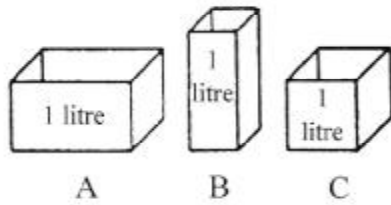
5. Which nail is most likely to pull out of the wall?
 (a) A (b) B (c) C (d) all equally likely



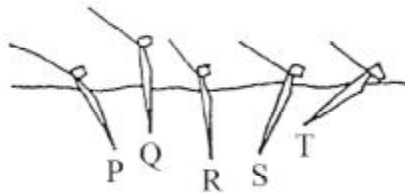
6. If each block weighs the same, which one will be most difficult to push over?
 (a) A (b) B (c) C (d) D



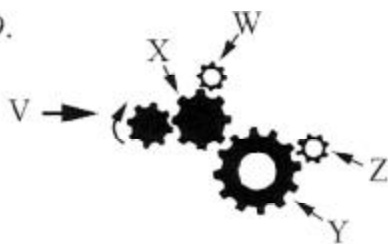
7. Which tank will cool the water fastest?
 (a) A (b) B (c) C (d) all equal



8. Which tent peg will give the best hold in soft ground?
 (a) P (b) Q (c) R (d) S (e) T

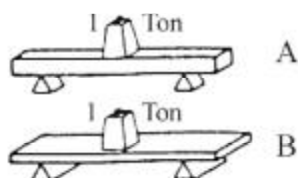


9. Which gear wheel goes in the same direction as the driver, V?
 (a) X (b) Y (c) Z

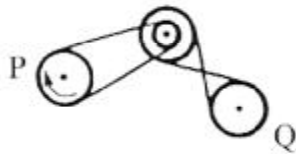


10. In question 9, which gear goes round fastest?
 (a) W (b) X (c) Y (d) Z

11. Which plank is more likely to break?
 (a) A (b) B (c) either



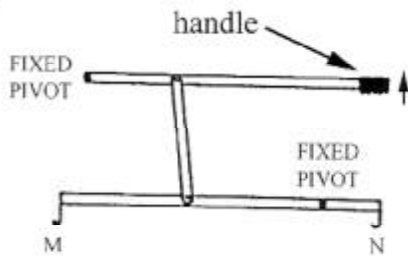
12.



Which way will wheel Q turn when wheel P rotates as shown?

- (a) ↻ (b) ↺ (c) either

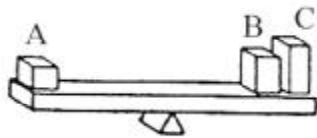
13.



If the handle is moved as shown, how will the hooks M and N move?

- (a) M up, N down
 (b) M down, N up
 (c) M up, N up
 (d) M down, N down
 (e) M up, N still

14.



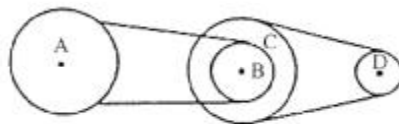
Which box is the heaviest?

- (a) A (b) B (c) C (d) all equal

15.

The diameter of pulleys A and C is 10cm and the diameter of pulleys B and D is 5cm. When pulley A makes a complete turn, pulley D will turn

- (a) once (b) twice (c) 4 times (d) 6 times (e) 8 times

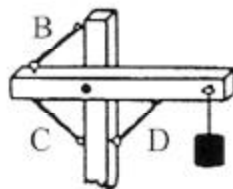


16.

If pulley D is the driver, (i.e. pulley D rotates) which pulley turns slowest?

- (a) A (b) B (c) C (d) all the same

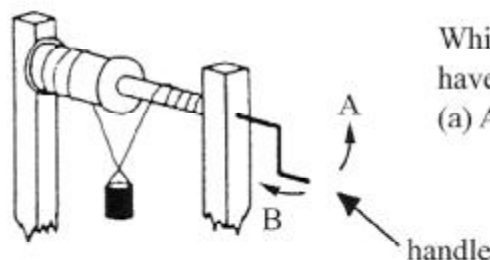
17.



Which chain would support the weight by itself?

- (a) any equally (b) B (c) C (d) D

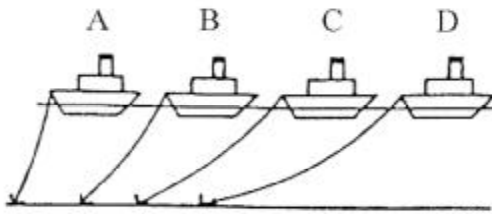
18.



Which way would the handle have to turn to raise the bucket?

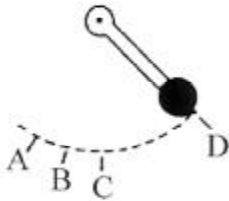
- (a) A (b) B (c) either

19.



Which boat has the safest anchorage?
(a) A (b) B (c) C (d) D

20.



Where is the pendulum moving fastest?
(a) A (b) B (c) C (d) D

NOTE THE TIME AT THIS POINT

Time taken to complete this section

mins

secs