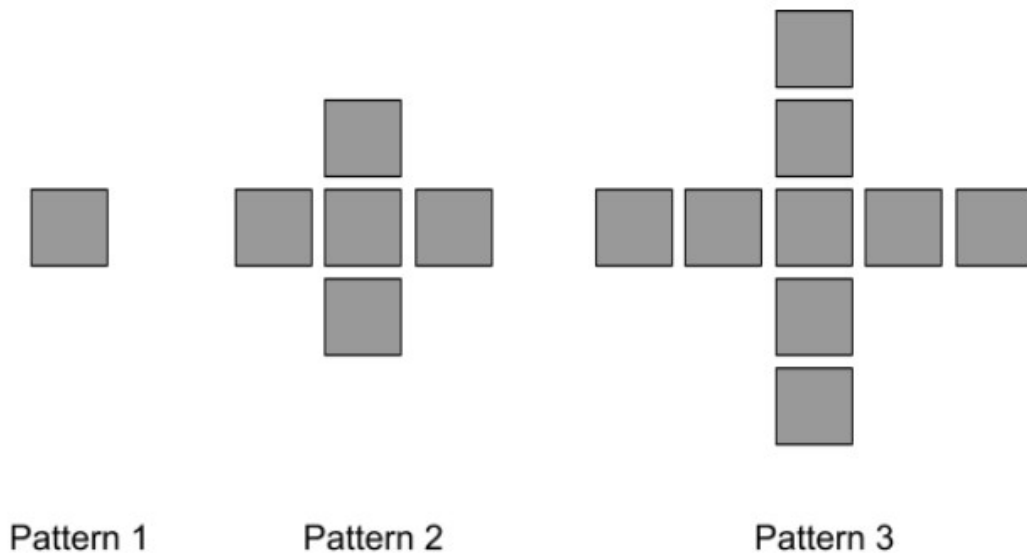


1**371 minutes is what in hours and minutes?**

- A 3 hours 71 minutes
 - B 6 hours 11 minutes
 - C 6 hours 51 minutes
 - D 7 hours 11 minutes
 - E 6 hours 1 minute
-

2

Look at the sequence of 3 patterns below. Each pattern is made up of small squares.



Look at the table below. It shows the number of small squares in each pattern.

Pattern	1	2	3
Small Squares	1	5	9

How many squares are needed to make Pattern 9?

- A 29 B 32 C 33 D 36 E 37
-

3

Look at the numbers below.

1 2 3 4 5 6 7 8 9 10 11 12 13

Which numbers below are both an odd number and a triangular number?

A 1 and 3 B 1, 3 and 5 C 3 and 6 D 1 and 9 E 1, 3, 6 and 10

4

Bella uses her calculator to carry out the calculation: $14.2 \times 89 = 1263.8$

Which two of the calculations below give the answer 1263.8?

- A 1.42×890 and 1.42×8900
 - B 1.42×890 and 1420×0.89
 - C 1420×8.9 and 1420×0.89
 - D 0.142×8.9 and 1.42×8900
 - E 1.42×8900 and 1420×8.9
-

For question 5, **write your answer** in the space provided below.

5

Look at the statement below. Write in the box to make the statement true.

5 tens is the same as _____ tenths.

Read the **whole** passage carefully, then answer the questions that follow.

In the Lab

1. Roger mixed the blue liquid into the yellow liquid carefully for the fifth time that day. The four
2. Previous attempts had failed. Each time, the experiment had produced only hydrogen. Quentin,
3. a fellow scientist, had checked the calculations meticulously three times.

4. "OK, it turned green," Roger declared. "We've got that part right. What's step four?" "Add 1
5. gram of aluminium powder," said Quentin. Roger measured 1 gram of the silvery white powder
6. with shaky hands, clearly nervous. He then mixed it in. "OK, next?" "Heat the mixture over a
7. medium flame for 90 seconds," Quentin said. The tension in the room could be cut with a knife!
8. Roger held the container over the flame with a pair of malleable tongs. He looked at the
9. second hand on his watch and counted 90 seconds. "Now add the sulphur tablet and put in the
10. stopper and tube," said Quentin.

11. Roger dropped a yellow disk into the container. The liquid inside fizzed and bubbled. He
12. pushed a stopper into the neck of the container and slid a plastic tube into a hole in the centre
13. of the stopper. Quentin handed an instrument to Roger, who held it at the open end of the
14. plastic tube, measuring the gas coming out. The two men stared at the instrument for 60
15. seconds. "Just hydrogen," Roger sighed. Quentin's head drooped. "I hope the sixth time's a
16. charm."

1

Just before Roger pushes the stopper into the container, what happens?

- A He measures the aluminium powder.
- B The liquid fizzes and bubbles.
- C He heats the mixture over the flame.
- D Quentin checks the calculations again.
- E He counts ninety seconds on his watch.

2

How many times had Quentin checked the calculations?

- A once
- B twice
- C three times
- D four times
- E five times

3

What is the author's main purpose in writing the story?

- A to explain exactly how hydrogen is made
- B to describe a tense experiment that is repeated again and again
- C to teach the reader how to use laboratory equipment
- D to show that scientific experiments always succeed
- E to compare Roger and Quentin's personalities

4

Which one of these does the passage suggest about how Roger is feeling during the experiment?

- A He is bored by repeating the experiment.
- B He is completely confident it will work.
- C He is nervous and the room feels tense.
- D He is angry with Quentin for the failures.
- E He has lost all interest in the result.

5

When Roger sighs "Just hydrogen," it most likely means that ____.

- A the experiment has finally succeeded
- B the experiment has failed once again
- C the mixture has turned green
- D the gas is too dangerous to measure
- E Quentin has made a mistake in the calculations

Answers

Maths

- 1) B 6 hours 11 minutes
- 2) C 33
- 3) A 1 and 3
- 4) B 1.42×890 and 1420×0.89
- 5) 500

English

- 1) B The liquid fizzes and bubbles.
- 2) C three times
- 3) B to describe a tense experiment that is repeated again and again
- 4) C He is nervous and the room feels tense.
- 5) B the experiment has failed once again