| | |
|---|---|
| Surname | |
| Other Names | |
| Candidate's Signature | |

# GCSE 9 - 1 Questions

# Factors Multiples and Primes

## Calculator Not Allowed

**INSTRUCTIONS TO CANDIDATES**

Write your name in the space provided.

Write your answers in the spaces provided in this question paper.

Answer ALL questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

**Total Marks :**

1)

| | | |
|---|---|---|
| 4 | 5 | 6 |
| 8 | 9 | 10 |
| 12 | 14 | 17 |
| 21 | 25 | 35 |

From the numbers in the grid, write down:

**(a)** the multiples of 3, Answer _____ [2]

**(b)** the factors of 48, Answer _____ [2]

**(c)** the prime numbers. Answer _____ [2]

2)

**(a)**

| | | |
|---|---|---|
| 48 | 10 | 2 |
| 7 | 21 | 36 |
| 3 | 8 | 32 |

**From the numbers in the grid**, write down

**(i)** two numbers with a difference of 12,

Answer _____ , _____ [1]

**(ii)** factors of 16,

Answer _____ , _____ [1]

**(iii)** a multiple of 9,

Answer _____ [1]

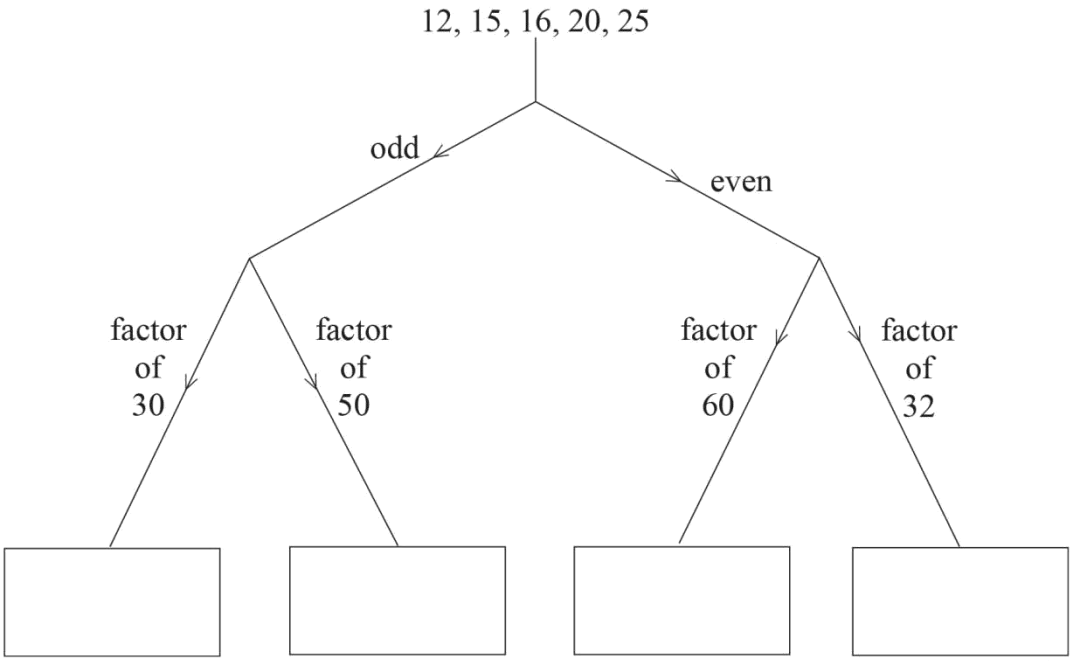
**(iv)** a square number,

Answer _____ [1]

**(v)** two numbers whose product is also in the grid.

Answer _____ , _____ [1]

3) Using the decision tree, sort these numbers into the correct boxes.




[2]

4)

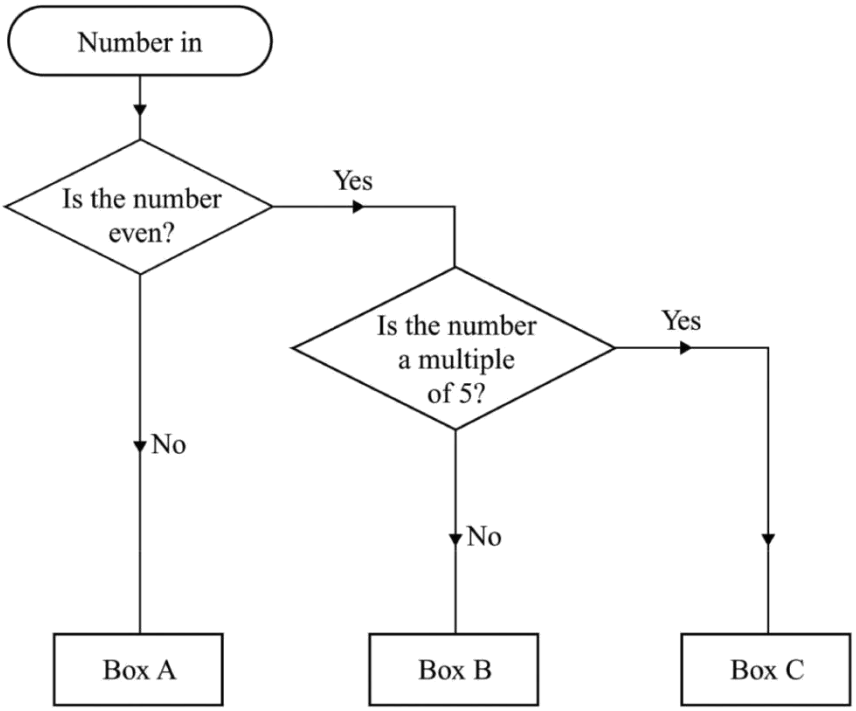
| | | |
|---|---|---|
| 23 | 75 | 44 |
| 50 | 12 | 47 |
| 14 | 49 | 24 |

**From the numbers in the grid**, write down

two factors of 48,

Answer _____ , _____ [1]

5)



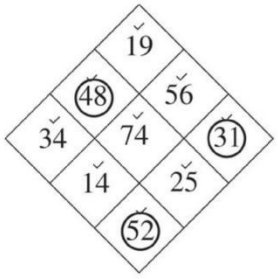

Using the decision tree diagram, name the box for

**(a)** 22 Answer Box _____

**(b)** 31 Answer Box _____

**(c)** 40 Answer Box _____ [2]

6)




**(a)** On the board 3 rubber rings are caught on the hooks above the numbers shown. What total score was achieved?

Answer _____ [1]

**(b)** Which numbers on the board are multiples of 7?

Answer _____ [1]

**(c)** Write down a square number from the board.

Answer _____ [1]

**(d)** Calculate the answer when the largest number is multiplied by the smallest number.

Answer _____ [2]

7)

| | | |
|---|---|---|
| **77** | **13** | **28** |
| **14** | **20** | **7** |
| **11** | **45** | **25** |

From the numbers in the table, select

**(a)** the two numbers whose sum is 38

Answer _____ [1]

**(b)** the product of the two smallest numbers

Answer _____ [1]

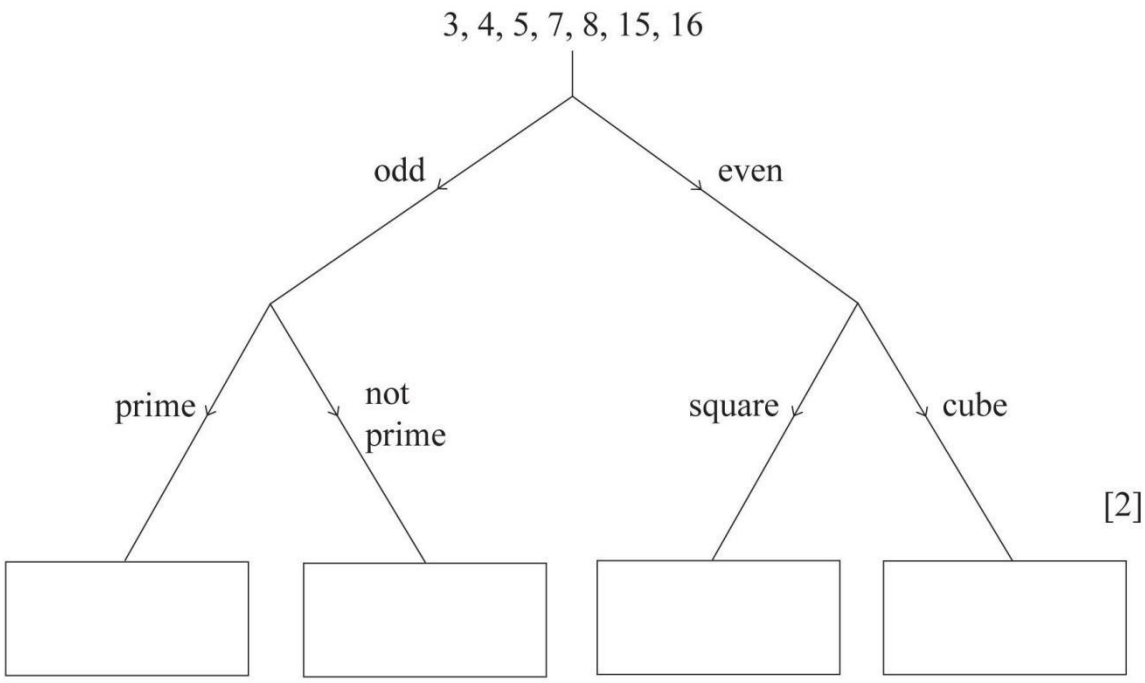
**(c)** the square number

Answer _____ [1]

**(d)** the multiple of 9

Answer _____ [1]

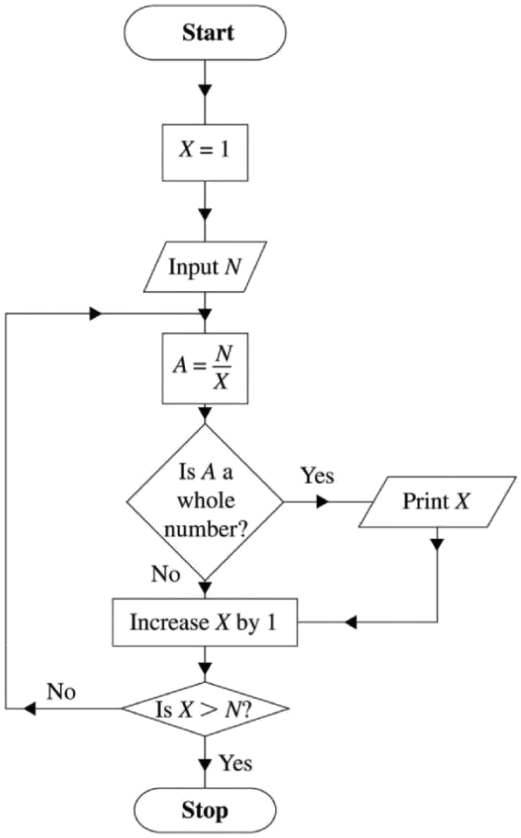
8) Using the decision tree diagram, sort these numbers into the correct boxes.




[2]

9)

**(a)** By letting $N = 10$, use the flow chart to find all the printed values of $X$.




Answers $X =$ _____ [2]

**(b)** What is the special name given to the printed values?

Answer _____ [1]

10)

**(a)** "Any even number greater than 2 can be written as the sum of two prime numbers".

Fill in the blanks to give **two** examples to illustrate this statement.

$6 = 3 + \_\_\_\_$, $8 = \_\_\_\_ + \_\_\_\_$ [1]

**(b)** Use the number 10 to show that the following statement is **not** true.

"Any even number greater than 2 can be written as the sum of two prime numbers in only one way". [2]

**(c)** "Any whole number greater than 5 can be written as the sum of three prime numbers".

Give **two** examples to illustrate this statement.

Answer **(i)** _____ **(ii)** _____ [1]