MASTER MATHS GCSE

GCSE Mathematics 9-1

Prime Factorisation

(Non-Calculator)

Mark Scheme

Total available marks: 21

Q	Answer	Working	Mark
1	5 and 11	5 and 11 can only be divided by 1 and themselves	1
2	13 and 17	13 and 17 can only be divided by 1 and themselves	1
3	19 and 23	19 and 23 can only be divided by 1 and themselves	1
4	29 and 31	29 and 31 can only be divided by 1 and themselves	1
5	37 and 41	37 and 41 can only be divided by 1 and themselves	1
6	$2^2 \times 3$ *Also accept* $2 \times 2 \times 3$	Keep dividing by prime numbers: $12 \div 2 = 6$ $6 \div 2 = 3$ $3 \div 3 = 1$	2
7	2×3^2 *Also accept* $2 \times 3 \times 3$	Keep dividing by prime numbers: $18 \div 2 = 9$ $9 \div 3 = 3$ $3 \div 3 = 1$	2
8	$2^2 \times 5$ *Also accept* $2 \times 2 \times 5$	Keep dividing by prime numbers: $20 \div 2 = 10$ $10 \div 2 = 5$ $5 \div 5 = 1$	2
9	$2^3 \times 3$ *Also accept* $2 \times 2 \times 2 \times 3$	Keep dividing by prime numbers: $24 \div 2 = 12$ $12 \div 2 = 6$ $6 \div 2 = 3$ $3 \div 3 = 1$	2
10	$2 \times 3 \times 5$	Keep dividing by prime numbers: $30 \div 2 = 15$ $15 \div 3 = 5$ $5 \div 5 = 1$	2
11	2×5^3 *Also accept* $2 \times 5 \times 5 \times 5$	Keep dividing by prime numbers: $250 \div 2 = 125$ $125 \div 5 = 25$ $25 \div 5 = 5$ $5 \div 5 = 1$	2

Q	Answer	Working	Mark
12	$2^3 \times 5$ *Also accept* $2 \times 2 \times 2 \times 5$	Keep dividing by prime numbers: $40 \div 2 = 20$ $20 \div 2 = 10$ $10 \div 2 = 5$ $5 \div 5 = 1$	2
13	$2^4 \times 3$ *Also accept* $2 \times 2 \times 2 \times 2 \times 3$	Keep dividing by prime numbers: $48 \div 2 = 24$ $24 \div 2 = 12$ $12 \div 2 = 6$ $6 \div 2 = 3$ $3 \div 3 = 1$	2

Total available marks for this paper	**21**