FOUNDATION

1.11 Factors and Multiples: 30-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write down all the factors of 42.

(Total for Question 1 is 2 marks)

2 Bus A leaves the station every 5 minutes. Bus B leaves the station every 9 minutes. They both leave at 9:00 am. After how many minutes do they next leave together?

(Total for Question 2 is 3 marks)

3 Here is a list of numbers.
6, 8, 12, 15, 24, 30
Circle the two numbers in the list that are common multiples of 3 and 4.

(Total for Question 3 is 2 marks)

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4 State whether each statement is True or False.

(a) 3 is a factor of 27. **(1)**

(b) 5 is a multiple of 20. **(1)**

(c) 1 is a factor of every whole number. **(1)**

(d) 9 is a prime number. **(1)**

(Total for Question 4 is 4 marks)

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5 Complete the table below. Each row is missing one number.

Sequence	Terms
First three multiples of 9:	9, 18, ☐
Factors of 16 in order:	1, 2, ☐ 8, 16
First three multiples of 11:	11, 22, ☐
Factors of 24 in order:	1, 2, 3, ☐ 6, 8, 12, 24

(Total for Question 5 is 4 marks)

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6 Find the Highest Common Factor (HCF) of 12 and 18.

(Total for Question 6 is 2 marks)

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7 Decide whether 51 is prime or composite. Give a short reason.

(Total for Question 7 is 1 mark)

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8 Priya is making identical party bags. She has 16 chocolate bars and 24 packets of crisps. Every bag must contain the same number of chocolate bars and the same number of packets of crisps, with none left over. Work out the greatest number of party bags Priya can make.

(Total for Question 8 is 3 marks)

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9 Find the Highest Common Factor (HCF) of 30, 45 and 60.

(Total for Question 9 is 3 marks)

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Mark scheme · 1.11 Factors and Multiples: 30-minute Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

at least half of the factors listed, or factor pairs seen	**M1**
all factors, no extras	**A1**

Answer: 1, 2, 3, 6, 7, 14, 21, 42

Question 2

lists multiples of 5 and 9	**M1**
identifies a common multiple	**M1**
45 minutes cao	**A1**

Answer: 45 minutes

Question 3

12 identified	**B1**
24 identified, with no incorrect extra numbers circled	**B1**

Answer: 12 and 24

Question 4

(a) True cao, since 27 = 3 x 9	**B1**

(a) Answer: True

(b) False cao, since 5 does not appear in the 20 times table	**B1**

(b) Answer: False

(c) True cao	**B1**

(c) Answer: True

(d) False cao, since 9 = 3 x 3 has a factor other than 1 and itself	**B1**

(d) Answer: False

Question 5

27 cao (third multiple of 9)	**B1**
4 cao (missing factor of 16)	**B1**
33 cao (third multiple of 11)	**B1**
4 cao (missing factor of 24)	**B1**

Answer: 27, 4, 33, 4

Question 6

correct list of factors of 12 (1,2,3,4,6,12) and 18 (1,2,3,6,9,18), or other correct method	**M1**
6 cao	**A1**

Answer: 6

Question 7

51 is composite, e.g. 51 = 3 * 17 cao	**B1**

Answer: Composite, because 51 = 3 * 17.

Question 8

identifying that the HCF of 16 and 24 is required	**M1**
correct factors of 16 (1,2,4,8,16) and 24 (1,2,3,4,6,8,12,24) or other valid method	**M1**
8 cao	**A1**

Answer: 8 party bags

Question 9

correct factors of at least two of the three numbers	**M1**
correct factors of all three numbers: 30 (1,2,3,5,6,10,15,30), 45 (1,3,5,9,15,45), 60 (1,2,3,4,5,6,10,12,15,20,30,60)	**M1**
15 cao	**A1**

Answer: 15

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