1.10 Factors, Multiples, Primes and Squares: 1-hour Pack

Total Marks

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write all the multiples of 4 from 177 to 196.

Answer: ___

(1)

---

2 The sum of 4 consecutive odd numbers is 160.

What is the smallest of the 4 numbers?

Answer: ___

(2)

---

3 I am thinking of a 3-digit number. Here are some clues.

Clue 1: It is a multiple of 4.
Clue 2: It has an even ones digit.
Clue 3: It has hundreds digit 2.
Clue 4: It has a digit sum of 7.

What is my number?

Answer: ___

(2)

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4 Which of these numbers is a multiple of 6?

363, 294, 911, 184, 803

Answer: ___

(2)

---

5 The sum of 3 consecutive odd numbers is 45.

What is the smallest of the 3 numbers?

Answer: ___

(2)

---

6 What is the smallest number that is a multiple of both 8 and 6?

Answer: ___

(2)

---

7 What is the smallest number that is a multiple of both 6 and 5?

Answer: ___

(2)

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8 Is 53 a prime number? Write Yes or No.

Answer: ___

(1)

---

9 Write all the multiples of 10 between 57 and 69.

Answer: ___

(2)

---

10 Write all the multiples of 8 between 30 and 49.

Answer: ___

(2)

---

11 Write all the common factors of 30 and 21.

Answer: ___

(2)

---

12 Which of these numbers is a prime number?

57, 52, 49, 31

Answer: ___

(1)

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13 What is 9 squared?

Answer: ___

(1)

---

14 Work out the least common multiple (LCM) of 12 and 15. Show prime factors or list multiples to support your answer.

(3)

---

15 Find two square numbers that are less than or equal to 100 and add to 181. Explain how you know you have found them.

(2)

---

16 Write all the prime numbers between 60 and 74.

Answer: ___

(2)

---

17 The sum of 4 consecutive numbers is 90.

What is the smallest of the 4 numbers?

Answer: ___

(2)

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18 The sum of 3 consecutive numbers is 177.

What is the smallest of the 3 numbers?

Answer: ___

(2)

---

19 Which of these numbers is a multiple of 3?

582, 161, 991, 550, 994

Answer: ___

(2)

---

20 What is 6 squared plus 5 squared?

Answer: ___

(2)

---

21 Write all the multiples of 7 between 67 and 85.

Answer: ___

(2)

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22 What is 10 squared?

Answer: ___

(1)

---

23 Write all the multiples of 4 between 31 and 50.

Answer: ___

(2)

---

24 Write all the multiples of 9 between 200 and 222.

Answer: ___

(2)

---

25 Which of these numbers is a square number?

13, 138, 144, 83, 148

Answer: ___

(1)

---

26 Hannah says 91 is prime. Is she correct? Explain your answer.

(2)

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Mark scheme · 1.10 Factors, Multiples, Primes and Squares: 1-hour Pack

Question 1

180, 184, 188, 192, 196 cao — **B1**

Answer: **180, 184, 188, 192, 196**

Question 2

uses the mean or tests numbers — **M1**

37 cao — **A1**

Answer: **37**

Question 3

uses at least two conditions to cut down the list — **M1**

232 cao — **A1**

Answer: **232**

Question 4

uses a divisibility rule or division — **M1**

294 cao — **A1**

Answer: **294**

Question 5

uses the mean or tests numbers — **M1**

13 cao — **A1**

Answer: **13**

Question 6

lists multiples of 8 and 6 — **M1**

24 cao — **A1**

Answer: **24**

Question 7

lists multiples of 6 and 5 — **M1**

30 cao — **A1**

Answer: **30**

Question 8

Yes cao — **B1**

Answer: **Yes**

Question 9

lists multiples of the number — **M1**

60 cao — **A1**

Answer: **60**

Question 10

lists multiples of the number — **M1**

32, 40, 48 cao — **A1**

Answer: **32, 40, 48**

Question 11

lists the factors of each number — **M1**

1, 3 cao — **A1**

Answer: **1, 3**

Question 12

31 cao — **B1**

Answer: **31**

Question 13

81 cao — **B1**

Answer: **81**

Question 14

Method shown using prime factors or listing multiples — **M1**

LCM = 60 cao — **B1**

Supporting evidence such as 12 x 5 = 60 or 15 x 4 = 60 oe — **B1**

Answer: **60**

Question 15

Method shown, e.g. list squares up to 100 or test pairs — **M1**

Correct pair 81 and 100 given and sum shown to be 181 cao — **B1**

Answer: **81, 100**

Question 16

checks factors of numbers in the range — **M1**

61, 67, 71, 73 cao — **A1**

Answer: **61, 67, 71, 73**

Question 17

uses the mean or tests numbers — **M1**

21 cao — **A1**

Answer: **21**

Question 18

uses the mean or tests numbers — **M1**

58 cao — **A1**

Answer: **58**

Question 19

uses a divisibility rule or division — **M1**

582 cao — **A1**

Answer: **582**

Question 20

one square found — **M1**

61 cao — **A1**

Answer: **61**

Question 21

lists multiples of the number — **M1**

70, 77, 84 cao — **A1**

Answer: **70, 77, 84**

Question 22

100 cao — **B1**

Answer: **100**

Question 23

lists multiples of the number — **M1**

32, 36, 40, 44, 48 cao — **A1**

Answer: **32, 36, 40, 44, 48**

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Question 24

lists multiples of the number	**M1**
207, 216 cao	**A1**

Answer: **207, 216**

Question 25

144 cao	**B1**

Answer: **144**

Question 26

Identify that 91 is divisible by 7 (or 13) or show 91 = 7 x 13	**B1**
Conclude that 91 is not prime cao	**B1**

Answer: **No. 91 = 7 x 13 so it is not prime.**

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