1.10 Factors, Multiples, Primes and Squares: 2-hour Pack

Total Marks

Calculators not allowed · about 120 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write all the multiples of 10 from 133 to 150.

Answer: ___

(2)

---

2 Work out the number which, when multiplied by itself, gives 225.

Answer: ___

(1)

---

3 What is 14 squared?

Answer: ___

(1)

---

4 Is 37 a prime number? Write Yes or No.

Answer: ___

(1)

© Revision Library | revisionlibrary.co.uk

5 What is 8 squared plus 6 squared?

Answer: ___

(1)

---

6 What is 11 squared?

Answer: ___

(1)

---

7 Which of these numbers is a prime number?

21, 47, 12, 40

Answer: ___

(1)

---

8 What is the smallest number that is a multiple of both 9 and 10?

Answer: ___

(2)

---

9 Write all the common factors of 30 and 16.

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

10 What is 8 squared plus 8 squared?

Answer: ___

(2)

---

11 The sum of 3 consecutive even numbers is 162.

What is the smallest of the 3 numbers?

Answer: ___

(2)

---

12 Which of these numbers is a square number?

111, 10, 110, 49, 146

Answer: ___

(1)

---

13 What is 7 squared plus 9 squared?

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

14 Write all the prime numbers between 68 and 86.

Answer: ___

(2)

---

15 List all the factors of 30.

(2)

---

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

Clue 1: It has a digit sum of 10.
Clue 2: It has hundreds digit 2.
Clue 3: It has an odd ones digit.
Clue 4: It is a multiple of 7.

What is my number?

Answer: ___

(2)

---

17 Which of these numbers is a prime number?

19, 57, 49, 33

Answer: ___

(1)

© Revision Library | revisionlibrary.co.uk

18 Write all the factors of 12.

Answer: ___

(2)

---

19 The sum of 4 consecutive even numbers is 212.

What is the smallest of the 4 numbers?

Answer: ___

(2)

---

20 The sum of 4 consecutive numbers is 214.

What is the smallest of the 4 numbers?

Answer: ___

(2)

---

21 The sum of 4 consecutive numbers is 246.

What is the smallest of the 4 numbers?

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

22 Write all the factors of 10.

Answer: ___

(1)

---

23 What is the smallest number that is a multiple of both 9 and 8?

Answer: ___

(2)

---

24 Write all the prime numbers from 22 to 37.

Answer: ___

(1)

---

25 What is the highest common factor of 38 and 34?

Answer: ___

(2)

---

26 The sum of 5 consecutive numbers is 255.

What is the smallest of the 5 numbers?

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

27 Which of these numbers is a multiple of 2?

389, 605, 251, 919, 578

Answer: ___

(2)

---

28 Write all the multiples of 9 between 69 and 92.

Answer: ___

(2)

---

29 What is the smallest number that is a multiple of both 7 and 12?

Answer: ___

(2)

---

30 Is 54 a prime number? Write Yes or No.

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

31 Is 86 a prime number? Write Yes or No.

Answer: ___

(2)

---

32 The sum of 3 consecutive even numbers is 60.

What is the smallest of the 3 numbers?

Answer: ___

(2)

---

33 Write all the prime numbers from 11 to 30.

Answer: ___

(1)

---

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

Clue 1: It has a digit sum of 12.
Clue 2: It has an even ones digit.
Clue 3: It has hundreds digit 6.
Clue 4: It has tens digit twice the ones digit.

What is my number?

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

35 The sum of 5 consecutive even numbers is 210.

What is the smallest of the 5 numbers?

Answer: ___

(2)

---

36 The sum of 3 consecutive numbers is 135.

What is the smallest of the 3 numbers?

Answer: ___

(2)

---

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

Clue 1: It has hundreds digit 2.
Clue 2: It has a digit sum of 19.
Clue 3: It has an even ones digit.

What is my number?

Answer: ___

(2)

---

38 Work out the number which, when multiplied by itself, gives 36.

Answer: ___

(1)

© Revision Library | revisionlibrary.co.uk

39 What is 4 cubed?

Answer: ___

(1)

---

40 Write all the factors of 40.

Answer: ___

(2)

---

41 The sum of 4 consecutive odd numbers is 136.

What is the smallest of the 4 numbers?

Answer: ___

(2)

---

42 Which of these numbers is a square number?

136, 70, 75, 56, 16

Answer: ___

(1)

© Revision Library | revisionlibrary.co.uk

43 What is the highest common factor of 8 and 28?

Answer: ___

(2)

---

44 Write all the common factors of 14 and 35.

Answer: ___

(2)

---

45 The sum of 4 consecutive numbers is 82.

What is the smallest of the 4 numbers?

Answer: ___

(2)

---

46 What is the smallest number that is a multiple of both 9 and 6?

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

47 Write all the common factors of 28 and 14.

Answer: ___

(2)

---

48 Write all the factors of 42.

Answer: ___

(1)

---

49 Write all the prime numbers from 7 to 30.

Answer: ___

(2)

---

50 What is 5 squared plus 6 squared?

Answer: ___

(1)

---

51 What is 3 cubed?

Answer: ___

(1)

© Revision Library | revisionlibrary.co.uk

52 The sum of 4 consecutive even numbers is 36.

What is the smallest of the 4 numbers?

Answer: ___

(2)

---

53 What is 6 squared plus 9 squared?

Answer: ___

(2)

---

54 Write all the factors of 50.

Answer: ___

(1)

---

55 What is 8 squared?

Answer: ___

(1)

© Revision Library | revisionlibrary.co.uk

56 The sum of 4 consecutive numbers is 62.

What is the smallest of the 4 numbers?

Answer: ___

(2)

---

57 What is the smallest number that is a multiple of both 9 and 4?

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 1.10 Factors, Multiples, Primes and Squares: 2-hour Pack

Question 1

lists multiples of the number	M1
140, 150 cao	A1

Answer: **140, 150**

Question 2

15 cao	B1

Answer: **15**

Question 3

196 cao	B1

Answer: **196**

Question 4

Yes cao	B1

Answer: **Yes**

Question 5

100 cao	B1

Answer: **100**

Question 6

121 cao	B1

Answer: **121**

Question 7

47 cao	B1

Answer: **47**

Question 8

lists multiples of 9 and 10	M1
90 cao	A1

Answer: **90**

Question 9

lists the factors of each number	M1
1, 2 cao	A1

Answer: **1, 2**

Question 10

one square found	M1
128 cao	A1

Answer: **128**

Question 11

uses the mean or tests numbers	M1
52 cao	A1

Answer: **52**

Question 12

49 cao	B1

Answer: **49**

Question 13

one square found	M1
130 cao	A1

Answer: **130**

Question 14

checks factors of numbers in the range	M1
71, 73, 79, 83 cao	A1

Answer: **71, 73, 79, 83**

Question 15

Most correct factors given (follow through allowed) oe	B1
All factors 1, 2, 3, 5, 6, 10, 15, 30 cao	B1

Answer: **1, 2, 3, 5, 6, 10, 15, 30**

Question 16

uses at least two conditions to cut down the list	M1
217 cao	A1

Answer: **217**

Question 17

19 cao	B1

Answer: **19**

Question 18

at least half the factors found	M1
1, 2, 3, 4, 6, 12 cao	A1

Answer: **1, 2, 3, 4, 6, 12**

Question 19

uses the mean or tests numbers	M1
50 cao	A1

Answer: **50**

Question 20

uses the mean or tests numbers	M1
52 cao	A1

Answer: **52**

Question 21

uses the mean or tests numbers	M1
60 cao	A1

Answer: **60**

Question 22

1, 2, 5, 10 cao	B1

Answer: **1, 2, 5, 10**

Question 23

lists multiples of 9 and 8	M1
72 cao	A1

Answer: **72**

Question 24

23, 29, 31, 37 cao	B1

Answer: **23, 29, 31, 37**

© Revision Library | revisionlibrary.co.uk

Question 25

lists the factors of each number — M1
2 cao — A1
Answer: **2**

Question 26

uses the mean or tests numbers — M1
49 cao — A1
Answer: **49**

Question 27

uses a divisibility rule or division — M1
578 cao — A1
Answer: **578**

Question 28

lists multiples of the number — M1
72, 81, 90 cao — A1
Answer: **72, 81, 90**

Question 29

lists multiples of 7 and 12 — M1
84 cao — A1
Answer: **84**

Question 30

gives a factor if not prime — M1
No cao — A1
Answer: **No**

Question 31

gives a factor if not prime — M1
No cao — A1
Answer: **No**

Question 32

uses the mean or tests numbers — M1
18 cao — A1
Answer: **18**

Question 33

11, 13, 17, 19, 23, 29 cao — B1
Answer: **11, 13, 17, 19, 23, 29**

Question 34

uses at least two conditions to cut down the list — M1
642 cao — A1
Answer: **642**

Question 35

uses the mean or tests numbers — M1
38 cao — A1
Answer: **38**

Question 36

uses the mean or tests numbers — M1
44 cao — A1
Answer: **44**

Question 37

uses at least two conditions to cut down the list — M1
298 cao — A1
Answer: **298**

Question 38

6 cao — B1
Answer: **6**

Question 39

64 cao — B1
Answer: **64**

Question 40

at least half the factors found — M1
1, 2, 4, 5, 8, 10, 20, 40 cao — A1
Answer: **1, 2, 4, 5, 8, 10, 20, 40**

Question 41

uses the mean or tests numbers — M1
31 cao — A1
Answer: **31**

Question 42

16 cao — B1
Answer: **16**

Question 43

lists the factors of each number — M1
4 cao — A1
Answer: **4**

Question 44

lists the factors of each number — M1
1, 7 cao — A1
Answer: **1, 7**

Question 45

uses the mean or tests numbers — M1
19 cao — A1
Answer: **19**

Question 46

lists multiples of 9 and 6 — M1
18 cao — A1
Answer: **18**

Question 47

lists the factors of each number — M1
1, 2, 7, 14 cao — A1
Answer: **1, 2, 7, 14**

Question 48

1, 2, 3, 6, 7, 14, 21, 42 cao — B1
Answer: **1, 2, 3, 6, 7, 14, 21, 42**

© Revision Library | revisionlibrary.co.uk

Question 49

checks factors of numbers in the range	M1
7, 11, 13, 17, 19, 23, 29 cao	A1

Answer: **7, 11, 13, 17, 19, 23, 29**

Question 50

61 cao	B1

Answer: **61**

Question 51

27 cao	B1

Answer: **27**

Question 52

uses the mean or tests numbers	M1
6 cao	A1

Answer: **6**

Question 53

one square found	M1
117 cao	A1

Answer: **117**

Question 54

1, 2, 5, 10, 25, 50 cao	B1

Answer: **1, 2, 5, 10, 25, 50**

Question 55

64 cao	B1

Answer: **64**

Question 56

uses the mean or tests numbers	M1
14 cao	A1

Answer: **14**

Question 57

lists multiples of 9 and 4	M1
36 cao	A1

Answer: **36**

© Revision Library | revisionlibrary.co.uk