3.18 Number Connections: 10-minute Pack

GL ASSESSMENT GL-VR-11+ · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Each question shows two number pairs written in the same style, for example: 5 (12) 7 followed by 9 (?) 6. The number in brackets is linked to the two outside numbers by a hidden rule. Work out the rule from the first pair, then apply exactly the same rule to the second pair to work out the missing number in brackets. Choose your answer from the five options given. There is only one correct answer to each question.

Worked example. 5 (15) 3 8 (?) 6 Work out the connection between the numbers in the first pair, then use the same connection to find the missing number in the second pair. **Answer: 48.** The number in brackets is the product of the two outside numbers: 5 x 3 = 15. Applying the same rule to the second pair: 8 x 6 = 48.

1 9 (5) 4
11 (?) 3

- ☐ A) 8
- ☐ B) 33
- ☐ C) 7
- ☐ D) 14
- ☐ E) 3.7

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2 3 (12) 4
6 (?) 5

- ☐ A) 11
- ☐ B) 25
- ☐ C) 1.2
- ☐ D) 30
- ☐ E) 1

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3 20 (5) 4
18 (?) 3

- [ ] A) 21
- [ ] B) 6
- [ ] C) 9
- [ ] D) 54
- [ ] E) 15

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4 3 (11) 5
7 (?) 9

- [ ] A) 16
- [ ] B) 32
- [ ] C) 23
- [ ] D) 5
- [ ] E) 25

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5 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.
6 (28) 3
12 (70) 5
2 (?) 10

- [ ] A) 31
- [ ] B) 14
- [ ] C) 30
- [ ] D) 29
- [ ] E) 16

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6 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.

4 (16) 2
8 (128) 8
12 (?) 11

- [ ] A) 143
- [ ] B) 264
- [ ] C) 1
- [ ] D) 263
- [ ] E) 265

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7 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.

8 (185) 11
11 (137) 4
2 (?) 7

- [ ] A) 53
- [ ] B) 52
- [ ] C) 54
- [ ] D) 18
- [ ] E) 9

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8 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.

8 (12) 4
9 (14) 5
10 (?) 7

- [ ] A) 17
- [ ] B) 107
- [ ] C) 15
- [ ] D) 149
- [ ] E) 19

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9 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.

10 (27) 3
7 (12) 2
11 (?) 7

- [ ] A) 170
- [ ] B) 70
- [ ] C) 66
- [ ] D) 69
- [ ] E) 71

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10 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.

8 (35) 5
3 (6) 3
9 (?) 8

- [ ] A) 65
- [ ] B) 89
- [ ] C) 1
- [ ] D) 63
- [ ] E) 64

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11 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.

11 (36) 5
8 (152) 12
4 (?) 3

- [ ] A) 14
- [ ] B) 17
- [ ] C) 13
- [ ] D) 12
- [ ] E) 10

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12 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.

8 (24) 8

10 (24) 4

9 (?) 8

- [ ] A) 51
- [ ] B) 27
- [ ] C) 26
- [ ] D) 25
- [ ] E) 17

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13 The numbers in the brackets are linked to the numbers outside by the same rule each time. Find the missing number.

11 (264) 12

4 (64) 8

3 (?) 4

- [ ] A) 17
- [ ] B) 23
- [ ] C) 25
- [ ] D) 2
- [ ] E) 24

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Mark scheme · 3.18 Number Connections: 10-minute Pack

Question 1

A) 8 - rule is subtraction: 9 - 4 = 5, so 11 - 3 = 8 **B1**

Answer: 8

Question 2

D) 30 - rule is multiplication: 3 x 4 = 12, so 6 x 5 = 30 **B1**

Answer: 30

Question 3

B) 6 - rule is division: 20 / 4 = 5, so 18 / 3 = 6 **B1**

Answer: 6

Question 4

C) 23 - rule is (double the first number, then add the second): (3 x 2) + 5 = 11, so (7 x 2) + 9 = 23 **B1**

Answer: 23

Question 5

C) 30 - rule: multiply then add 10; for 2 and 10 this gives 30 **B1**

Answer: C) 30

Question 6

B) 264 - rule: multiply the two numbers then double; for 12 and 11 this gives 264 **B1**

Answer: B) 264

Question 7

A) 53 - rule: add the squares of the two numbers; for 2 and 7 this gives 53 **B1**

Answer: A) 53

Question 8

A) 17 - rule: add the two outer numbers; for 10 and 7 this gives 17 **B1**

Answer: A) 17

Question 9

B) 70 - rule: multiply the two numbers then subtract the second; for 11 and 7 this gives 70 **B1**

Answer: B) 70

Question 10

E) 64 - rule: multiply the two numbers then subtract the second; for 9 and 8 this gives 64 **B1**

Answer: E) 64

Question 11

C) 13 - rule: square the second number and add the first; for 4 and 3 this gives 13 **B1**

Answer: C) 13

Question 12

C) 26 - rule: double the first number and add the second; for 9 and 8 this gives 26 **B1**

Answer: C) 26

Question 13

E) 24 - rule: multiply the two numbers then double; for 3 and 4 this gives 24 **B1**

Answer: E) 24

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