3.18-2 Number Connections: Practice Set 2: 10-minute Pack

Total Marks

GL ASSESSMENT GL VR type 18 · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Each question gives two pairs of numbers set out in the same way, for example: 6 (14) 8 followed by 9 (?) 7. The number inside the brackets is produced from the two numbers either side of it by a hidden rule. Study the first pair to work out the rule, then apply exactly the same rule to the second pair to find the missing number in the brackets. Choose your answer from the five options given. Only one answer is correct for each question.

Worked example. 6 (14) 8 9 (?) 7 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: 16.** The number in brackets is the sum of the two outside numbers: 6 + 8 = 14. Applying the same rule to the second pair: 9 + 7 = 16.

1 8 (17) 9
14 (?) 5

- ☐ A) 9
- ☐ B) 70
- ☐ C) 2.8
- ☐ D) 20
- ☐ E) 19

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2 12 (7) 5
16 (?) 8

- ☐ A) 24
- ☐ B) 8
- ☐ C) 128
- ☐ D) 2
- ☐ E) 9

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3 7 (28) 4
9 (?) 3

- [ ] A) 12
- [ ] B) 6
- [ ] C) 27
- [ ] D) 3
- [ ] E) 30

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4 24 (4) 6
21 (?) 7

- [ ] A) 28
- [ ] B) 14
- [ ] C) 147
- [ ] D) 3
- [ ] E) 4

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5 9 (10) 4
13 (?) 6

- [ ] A) 14
- [ ] B) 7
- [ ] C) 38
- [ ] D) 4.33
- [ ] E) 20

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6 7 (17) 5
9 (?) 6

- [ ] A) 21
- [ ] B) 24
- [ ] C) 15
- [ ] D) 30
- [ ] E) 3

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7 4 (11) 5
7 (?) 8

- [ ] A) 13
- [ ] B) 17
- [ ] C) 24
- [ ] D) 31
- [ ] E) 9

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8 6 (8) 4
9 (?) 5

- [ ] A) 45
- [ ] B) 22.5
- [ ] C) 15
- [ ] D) 4.67
- [ ] E) 9

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9 4 (25) 9
5 (?) 11

- [ ] A) 126
- [ ] B) 16
- [ ] C) 14
- [ ] D) 36
- [ ] E) 21

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10 8 (7) 4
10 (?) 6

- [ ] A) 8
- [ ] B) 33
- [ ] C) 6
- [ ] D) 8.5
- [ ] E) 9

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11 3 (40) 7
5 (?) 9

- [ ] A) 56
- [ ] B) 14
- [ ] C) -56
- [ ] D) 18
- [ ] E) 45

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12 5 (7) 4
7 (?) 3

- [ ] A) 5
- [ ] B) 15
- [ ] C) 18
- [ ] D) 27
- [ ] E) -5

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13 8 (28) 3
11 (?) 5

- [ ] A) 36
- [ ] B) 47
- [ ] C) 41
- [ ] D) 17
- [ ] E) 31

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Mark scheme · 3.18-2 Number Connections: Practice Set 2: 10-minute Pack

Question 1

E) 19 - rule is addition: 8 + 9 = 17, so 14 + 5 = 19 **B1**

Answer: 19

Question 2

B) 8 - rule is subtraction: 12 - 5 = 7, so 16 - 8 = 8 **B1**

Answer: 8

Question 3

C) 27 - rule is multiplication: 7 x 4 = 28, so 9 x 3 = 27 **B1**

Answer: 27

Question 4

D) 3 - rule is division: 24 / 6 = 4, so 21 / 7 = 3 **B1**

Answer: 3

Question 5

A) 14 - rule is (subtract, then double): (9 - 4) x 2 = 10, so (13 - 6) x 2 = 14 **B1**

Answer: 14

Question 6

A) 21 - rule is (double the second number, then add the first): (5 x 2) + 7 = 17, so (6 x 2) + 9 = 21 **B1**

Answer: 21

Question 7

B) 17 - rule is (multiply the second number by 3, subtract the first): (3 x 5) - 4 = 11, so (3 x 8) - 7 = 17 **B1**

Answer: 17

Question 8

C) 15 - rule is (multiply, then divide by 3): (6 x 4) / 3 = 8, so (9 x 5) / 3 = 15 **B1**

Answer: 15

Question 9

D) 36 - rule is (square the first number, add the second): 4^2 + 9 = 25, so 5^2 + 11 = 36 **B1**

Answer: 36

Question 10

E) 9 - rule is (find the mean, then add one): ((8 + 4) / 2) + 1 = 7, so ((10 + 6) / 2) + 1 = 9 **B1**

Answer: 9

Question 11

A) 56 - rule is (add the numbers, multiply by their difference in reverse order): (3 + 7) x (7 - 3) = 40, so (5 + 9) x (9 - 5) = 56 **B1**

Answer: 56

Question 12

B) 15 - rule is (treble the first number, subtract double the second): (3 x 5) - (2 x 4) = 7, so (3 x 7) - (2 x 3) = 15 **B1**

Answer: 15

Question 13

C) 41 - rule is (square the difference, then add the second number): $(8 - 3)^2$ + 3 = 28, so $(11 - 5)^2$ + 5 = 41 **B1**

Answer: 41

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