

Grade 4 - Factors, Multiples, Prime and Composite - Test Answer Key

Common Core 4.OA.B.4 · maths-pdf.fr/en/

Use this answer key and scoring guide to grade the factors and multiples test. Each solution shows the work, and the scoring note explains how partial credit is awarded out of 20 points.

Grade 4 · Common Core State Standards: **4.OA.B.4**

Question 1 - Factor pairs of 40 [2 pts]

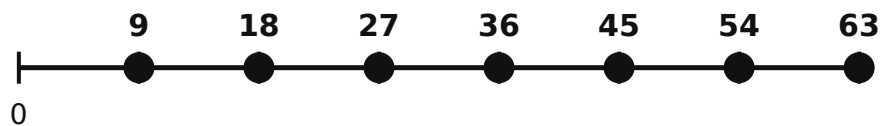
1×40 , 2×20 , 4×10 , 5×8 .

1 and 40, 2 and 20, 4 and 10, 5 and 8

Scoring: 2 points for all four pairs; 1 point for three pairs or for four pairs with one wrong extra pair; 0 points otherwise.

Question 2 - Missing multiples [2 pts]

Count by 9: 9, 18, 27, 36, 45, 54, 63.



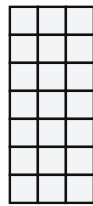
All multiples of 9 up to 63.

27 and 54

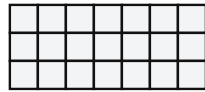
Scoring: 1 point for each correct missing number.

Question 3 - Array and factors [2 pts]

7 rows of 3: $7 \times 3 = 21$. Factor pairs: 1×21 , 3×7 .



7 rows of 3



3 rows of 7

Both arrays have 21 tiles.

$7 \times 3 = 21$; factors 1, 3, 7, 21

Scoring: 1 point for a correct equation; 1 point for all four factors.

Question 4 - Prime or composite [2 pts]

(a) $27 = 3 \times 9$: composite. (b) 31 has only factors 1 and 31: prime. (c) $49 = 7 \times 7$: composite. (d) 61 has only factors 1 and 61: prime.

(a) composite (b) prime (c) composite (d) prime

Scoring: 2 points for four correct; 1 point for two or three correct.

Question 5 - Multiples of 9 [2 pts]

$9 \times 7 = 63$, $9 \times 8 = 72$, $9 \times 11 = 99$. 85 and 91 are not ($9 \times 9 = 81$, $9 \times 10 = 90$, $9 \times 11 = 99$).

63, 72, 99

Scoring: 2 points for all three and no extra numbers; 1 point if one is missing or one wrong number is included.

Question 6 - Is 1 prime? [2 pts]

A prime number has exactly two factors. The number 1 has only one factor, 1 itself.

Mia is not correct. 1 has one factor, so it is not prime.

Scoring: 1 point for saying Mia is not correct; 1 point for a reason that mentions the number of factors.

Question 7 - Number riddles [3 pts]

(a) $8 \times 7 = 56$.

(b) The primes between 80 and 90 are 83 and 89. $8 + 3 = 11$, $8 + 9 = 17$.

(c) The only multiple of 5 between 10 and 20 is 15. It is odd and $15 = 3 \times 5$, so it is composite.

(a) 56 (b) 83 (c) 15

Scoring: 1 point for each correct number.

Question 8 - Divisibility [2 pts]

The last digit is 5.

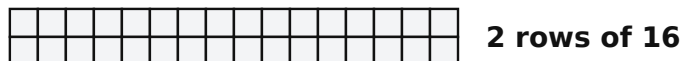
(a) no (b) yes (c) no

Scoring: 2 points for three correct; 1 point for two correct.

Question 9 - Desk arrangements [3 pts]

(a) Factor pairs of 32: 1×32 , 2×16 , 4×8 . Rows and desks per row both at least 2: 2×16 , 4×8 , 8×4 , 16×2 .

(b) 32 has more than two factors (1, 2, 4, 8, 16, 32).



Two of the arrangements.

(a) 2×16 , 4×8 , 8×4 , 16×2 (b) composite

Scoring: (a) 2 points for four arrangements, 1 point for two or three; (b) 1 point for composite with a reason.

Total

20 points