

Grade 6 - Equivalent Expressions and the Distributive Property - Test Answer Key

Common Core 6.EE.A.3, 6.EE.A.4 · maths-pdf.fr/en/

Use this key to score the equivalent expressions test out of 20 points. Each solution is fully worked, and the scoring line explains how to award each point and partial credit for correct steps.

Grade 6 · Common Core State Standards: **6.EE.A.3, 6.EE.A.4**

Question 1 - Distributive property [2 pts]

(a) $7x+14$. (b) $12a-20$.

Scoring: 1 point for each expression.

Question 2 - Factor [2 pts]

(a) GCF 6: $6(3+4y)$. (b) GCF 3: $3(3m-2)$.

Scoring: 1 point for each expression.

Question 3 - Combine like terms [2 pts]

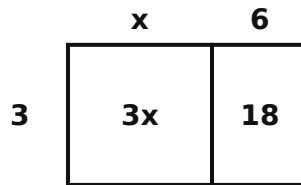
$6x+2x=8x$ and $4-1=3$.

$8x+3$

Scoring: 1 point for the x-terms; 1 point for the constants.

Question 4 - Area model [2 pts]

$3(x+6)$ and $3x+18$.



The area is $3x + 18$.

Scoring: 1 point for each expression.

Question 5 - Equivalent or not [2 pts]

$4(x+1)=4x+4$ by the distributive property.

Test: $4(3+1)=16$ and $4\cdot3+4=16$.

Yes, equivalent.

Expression	$x = 3$
$4(x + 1)$	16
$4x + 4$	16

Both are 16.

Scoring: 1 point for the method; 1 point for the correct conclusion.

Question 6 - Spot the error [2 pts]

The student did not multiply 3 by 5. $5(x+3)=5x+15$.

Scoring: 1 point for the explanation; 1 point for the correct expression.

Question 7 - Simplify [2 pts]

$4x+8+3x=7x+8$.

Scoring: 1 point for distributing; 1 point for combining.

Question 8 - Fencing [3 pts]

$$2(x+4)+2\cdot 3=2x+8+6=2x+14.$$

For $x=6$: $2\cdot 6+14=26$.

Scoring: 1 point for each equivalent expression; 1 point for 26 feet.

Question 9 - Multi-step simplify [3 pts]

$$2(5x-3)=10x-6 \text{ and } 4(x+2)=4x+8.$$

$$10x-6+4x+8=14x+2.$$

Check: $2(2)+4(3)=16$ and $14+2=16$.

Scoring: 1 point for each distribution; 1 point for the final expression.

Total**20 points**