



**THIRD SPACE
LEARNING**

Factoring Out the GCF Worksheet

Algebra

Grades 6 to 8

Skill Questions

Name:

Date:

- 1 Find missing value to form equivalent expressions.

$$6m - 3 = ?(2m - 1)$$

Answer

- 2 Find the missing values to form equivalent expressions.

$$10x - 8 + 4y = 2(5x - ? + ?y)$$

Answer

- 3 Write an equivalent expression by factoring out the GCF from $7n - 56$.

Answer

- 4 Factor the expression by factoring out the GCF: $21x + 9$

Answer

- 5 Factor the expression by factoring out the GCF: $54m - 12$

Answer

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6 Factor the expression by factoring out the GCF: $10 - 200t$

Answer

7 Factor the expression by factoring out the GCF: $-16y - 24$

Answer

8 Factor the expression by factoring out the GCF: $4a - 20b + 12$

Answer

9 Factor the expression by factoring out the GCF: $35 - 49x^2$

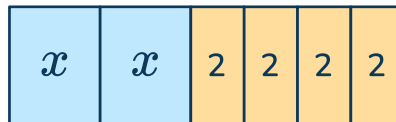
Answer

10 Factor the expression by factoring out the GCF: $15s^2 - 20t - 35r$

Answer

Applied Questions

- 11 The model below shows the area of room. Write two equivalent expressions that represent the area.

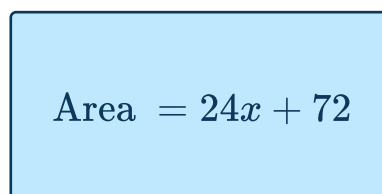


Answer

- 12 Noah tries factoring the expression, $-6r - 12s + 20$. He writes, $2(3r + 6s - 10)$, what mistake does he make?

Answer

- 13 The area of the rectangle below is: $24x + 72$ square units. What are the expressions that can be used to represent the length and the width of the rectangle?



Answer

- 14 Factor the expression by factoring out the GCF: $mp + mn$

Answer



- 15 If the area of a rectangular room is represented by $4x + 48y$ square units, and the length of the room is 4 units, write an expression representing the width of the room.

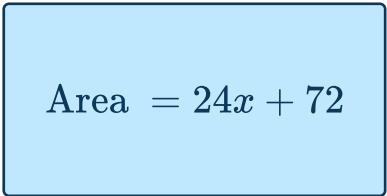
Answer



Answers

Question number	Question	Answers	Standard
1	Find missing value to form equivalent expressions. $6m - 3 = ?(2m - 1)$	3	6.EE.A.3
2	Find the missing values to form equivalent expressions. $10x - 8 + 4y = 2(5x - ? + ?y)$	Missing values, 4 and 2	6.EE.A.3
3	Write an equivalent expression by factoring out the GCF from $7n - 56$.	$7(n - 8)$	6.EE.A.3 7.EE.A.1
4	Factor the expression by factoring out the GCF: $21x + 9$	$3(7x + 3)$	7.EE.A.1
5	Factor the expression by factoring out the GCF: $54m - 12$	$6(9m - 2)$	7.EE.A.1
6	Factor the expression by factoring out the GCF: $10 - 200t$	$10(1 - 20t)$	7.EE.A.1
7	Factor the expression by factoring out the GCF: $-16y - 24$	$-8(2y + 3)$ OR $8(-2y - 3)$	7.EE.A.1
8	Factor the expression by factoring out the GCF: $4a - 20b + 12$	$4(a - 5b + 3)$	7.EE.A.1
9	Factor the expression by factoring out the GCF: $35 - 49x^2$	$7(5 - 7x^2)$	7.EE.A.1
10	Factor the expression by factoring out the GCF: $15s^2 - 20t - 35r$	$5(3s^2 - 4t - 7r)$	7.EE.A.1

Factoring Out the GCF Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
11	The model below shows the area of room. Write two equivalent expressions that represent the area. 	$2x + 8$ $2(x + 4)$	6.EE.A.3 7.EE.A.1
12	Noah tries factoring the expression, $-6r - 12s + 20$ He writes, $2(3r + 6s - 10)$, what mistake does he make?	He factored a 2 from the expression, so the signs of the terms in the parentheses should remain the same. $2(-3r - 6s + 10)$ OR he can factor out a -2 which then would change the signs of the terms inside the parentheses. $-2(3r + 6s - 10)$	7.EE.A.1
13	The area of the rectangle below is: $24x + 72$ square units. What are the expressions that can be used to represent the length and the width of the rectangle? 	Answers vary: Length: 24 Width: $x + 3$ OR Length: $x + 3$ Width: 24 OR Length: 6 Width: $(4x + 12)$ OR Length: $(4x + 12)$ Width: 6	7.EE.A.1

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Question number	Question	Answers	Standard
14	Factor the expression by factoring out the GCF: $mp + mn$	$m(p + n)$	7.EE.A.1
15	If the area of a rectangular room is represented by $4x + 48y$ square units, and the length of the room is 4 units, write an expression representing the width of the room.	Width of the room, $x + 12y$ $4(x + 12y) = 4x + 48y$	7.EE.A.1

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