



Simplifying Linear Expressions

Grade 7 Linear Equation Worksheet

Date: _____

Name: _____

LET'S MAKE SIMPLIFYING LINEAR EXPRESSIONS EASY

Factorize the following

1. $42x + 15 =$

2. $15x + 20 =$

3. $9x - 12 =$

4. $7x + 35 =$

5. $3x - 21 =$

6. $5x - 25 =$

7. $6x + 18 =$

8. $5x + 15 =$

9. $2x + 4 =$

10. $5x^2 + 10 =$

11. $3x^2 + x =$

12. $15x - 25x^2 =$

13. $21x + 14 =$

14. $6x - 3x^2 =$



Simplifying Linear Expressions

Answers

1. $42x + 15 = 3(14x + 5)$

2. $15x + 20 = 5(3x + 4)$

3. $9x - 12 = 3(3x - 4)$

4. $7x + 35 = 7(x + 5)$

5. $3x - 21 = 3(x - 7)$

6. $5x - 25 = 5(x - 5)$

7. $6x + 18 = 6(x + 2)$

8. $5x + 15 = 5(x + 3)$

9. $2x + 4 = 2(x + 4)$

10. $5x^2 + 10 = 5(x^2 + 2)$

11. $3x^2 + x = x(3x + 1)$

12. $15x - 25x^2 = 5x(3 - 5x)$

13. $21x + 14 = 7(3x + 2)$

14. $6x - 3x^2 = 3x(2 - x)$

Answer Explanation

1. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $42x$ and 15 is 3 . So, we can factor 3 from both terms, to have:
$$42x + 15 = 3(14x + 5)$$

So, the factorized form of $42x + 15$ is $3(14x + 5)$.
2. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $15x$ and 20 is 5 . So, we can factor 5 from both terms, to have:
$$15x + 20 = 5(3x + 4)$$

So, the factorized form of $15x + 20$ is $5(3x + 4)$.
3. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $9x$ and 12 is 3 . So, we can factor 3 from both terms, to have:
$$9x - 12 = 3(3x - 4)$$

So, the factorized form of $9x - 12$ is $3(3x - 4)$.
4. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $7x$ and 35 is 7 . So, we can factor 7 from both terms, to have:
$$7x + 35 = 7(x + 5)$$

So, the factorized form of $7x + 35$ is $7(x + 5)$.
5. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $3x$ and 21 is 3 . So, we can factor 3 from both terms, to have:
$$3x - 21 = 3(x - 7)$$

So, the factorized form of $3x - 21$ is $3(x - 7)$.
6. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $5x$ and 25 is 5 . So, we can factor 5 from both terms, to have:
$$5x - 25 = 5(x - 5)$$

So, the factorized form of $5x - 25$ is $5(x - 5)$.
7. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $6x$ and 18 is 6 . So, we can factor 6 from both terms, to have:
$$6x + 18 = 6(x + 3)$$

So, the factorized form of $6x + 18$ is $6(x + 3)$.

8. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $5x$ and 15 is 5 . So, we can factor 5 from both terms, to have:
 $5x + 15 = 5(x + 3)$
So, the factorized form of $5x + 15$ is $5(x + 3)$.

9. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $2x$ and 4 is 2 . So, we can factor 2 from both terms, to have:
 $2x + 4 = 2(x + 2)$
So, the factorized form of $2x + 4$ is $2(x + 2)$.

10. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $5x^2$ and 10 is 5 . So, we can factor 5 from both terms, to have:
 $5x^2 + 10 = 5(x^2 + 2)$
So, the factorized form of $5x^2 + 10$ is $5(x^2 + 2)$.

11. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $3x^2$ and x is x . So, we can factor x from both terms, to have:
 $3x^2 + x = x(3x + 1)$
So, the factorized form of $3x^2 + x$ is $x(3x + 1)$.

12. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $15x$ and $25x^2$ is $5x$. So, we can factor $5x$ from both terms, to have:
 $15x - 25x^2 = 5x(3 - 5x)$
So, the factorized form of $15x - 25x^2$ is $5x(3 - 5)$.

13. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $21x$ and 14 is 7 . So, we can factor 7 from both terms, to have:
 $21x + 14 = 7(3x + 2)$
So, the factorized form of $21x + 14$ is $7(3x + 2)$.

14. First, we look for the greatest common factor (GCF) of the two terms.
The GCF of $6x$ and $3x^2$ is $3x$. So, we can factor $3x$ from both terms, to have:
 $6x - 3x^2 = 3x(2 - x)$
So, the factorized form of $6x - 3x^2$ is $3x(2 - x)$.