

Lesson 5.3 Writing Expressions

An **equation** is a number sentence that contains an equal sign.

An **expression** is a number phrase without an equal sign.

Equations and expressions may contain only numerals, or they also may contain variables. A

variable is a symbol, usually a letter, that stands for an unknown number.

	<i>Equation</i>	<i>Expression</i>
Numerical	$3 \times 5 = 15$	$9 + 2$
Variable	$2n + 2 = 18$	$a - 5$

All equations and expressions express an idea.

3×4 means "three 4s." $6 \div 3 = 2$ means "6 divided by 3 is 2."

$n - 7$ means " n decreased by 7" or "a number decreased by 7."

$4n + 2 = 6$ means "four times a number, plus 2, is 6" or "4ns, plus 2, is 6."

Translate each phrase into an expression or an equation.

a

1. x increased by 5 _____

2. seven n s _____

3. a number added to 15 is 23 _____

4. p added to 6 _____

b

12 divided by a number _____

c less than 7 _____

one-fourth of x _____

the product of 15 and m _____

Translate each sentence into an equation. Use n for an unknown number.

5. 11 decreased by a number is 7. _____

6. 8 times a number, plus 4, is 84. _____

7. A number divided by 5 is 6. _____

Write each expression in words.

8. $n - 5$ _____

9. $3n \div 6$ _____

Lesson 5.3 Writing Expressions

Translate each phrase into an algebraic expression or an equation.

- | a | b |
|---|--|
| 1. subtract 8 from 3 times d _____ | take away 3 from x _____ |
| 2. g minus 2 is 14 _____ | z is added to 8 _____ |
| 3. the sum of 7 and z _____ | 2 is subtracted from 4 times d _____ |
| 4. two-fifths of the sum of 6 and s _____ | 9 minus c _____ |
| 5. 10 minus x _____ | subtract 9 from the product of 4 and f _____ |
| 6. 3 is subtracted from 5 times a _____ | y minus 3 is 15 _____ |
| 7. s is added to 9 _____ | the sum of 8 and t _____ |
| 8. take away 9 from h _____ | one-third of the sum of 7 and k _____ |

Write each expression in words.

9. $9 \div x$ _____
10. $3 \times g = 27$ _____
11. $6 \times m - 4$ _____
12. $\frac{1}{2} \times b + 9 = 11$ _____
13. $14 \div p$ _____
14. $6 \times b = 42$ _____
15. $9 \times d - 10$ _____
16. $\frac{1}{4} \times t + 8 = 16$ _____