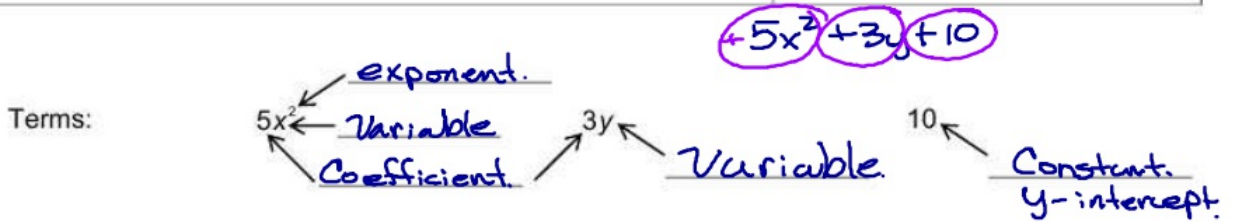


Vocabulary	Definition	Example
Expression	no equal sign - Simplify	$3x - 2 + x + 7$ $4x + 5$
Equation	has an equal sign. - Solve	$3x - 6 = 9$ $+6 \quad +6$ $3x = 15$ $x = 5$
Variable	Something to replace an unknown number.	$x$ , $3x$ , $-5x^2$ ↑     ↑     ↑



Decide if each problem is an equation or an expression. If it is an expression, simplify the expression. If it is an equation, solve the equation.

1.  $2x - 3(x - 4)$      Expression OR Equation

$2x - 3x + 12$   
 $-1x + 12$

2.  $2.1x + 1.5 = 13.05$      Expression OR Equation

$-1.5 \quad -1.5$   
 $2.1x = 11.55$   
 $2.1 \quad 2.1$   
 $x = 5.5$

3.  $\frac{3}{4}x - 8 = -2$      Expression OR Equation

$+8 \quad +8$   
 $\frac{3}{4}x = 6$   
 $x = 6 \cdot \frac{4}{3}$   
 $x = 8$

multiply by the fractions  
reciprocal

4.  $\frac{x}{2} + \frac{2}{3}$      Expression OR Equation

a number (x)	
Addition +	Subtraction -
<ul style="list-style-type: none"> <li>• sum</li> <li>• increased by</li> <li>• more than</li> <li>• plus</li> </ul>	<ul style="list-style-type: none"> <li>• difference</li> <li>• decreased by</li> <li>• less than *</li> <li>• minus</li> </ul>
Multiplication •	Division ÷, $\frac{\text{of}}{\text{by}}$
<ul style="list-style-type: none"> <li>• product</li> <li>• times</li> <li>• twice (2 times)</li> <li>• of</li> </ul>	<ul style="list-style-type: none"> <li>• quotient</li> <li>• divided by</li> <li>• half (divided by 2)</li> </ul>
Powers <i>exponent</i>	
<ul style="list-style-type: none"> <li>• squared</li> <li>• cubed</li> <li>• to the _____ power</li> </ul>	
is (=), <i>equal, congruent.</i>	

1. 12 is 5 times ~~a number~~ increased by 2  
 $x$

Expression OR Equation

$$12 = 5x + 2$$

2. Twice the *mult (+ -)* difference of a ~~number~~ and 8  
 $x$

Expression OR Equation

$$2(x - 8)$$

3. 5 less than ~~a number~~ squared is equal to 11  
 $x$

Expression OR Equation

$$x^2 - 5 = 11$$

4. Half the *mult (+ -)* (sum of a ~~number~~ and 3) is 20  
 $x$

Expression OR Equation

$$(x + 3) \div 2 = 20$$

5. The product of a ~~number~~ and 7  
 $x$

Expression OR Equation

$$x \cdot 7 = 7x$$

**Assignment: T2-26 Expressions & Equations**

1. Explain the difference between an expression and an equation and give an example of each.

**Translate each phrase into an algebraic expression or equation.**

2. A number more than 6 is 18 Expression OR Equation
3. 4 times the sum of a number and two Expression OR Equation
4. The quotient of 9 and a number squared Expression OR Equation
5. 9 is the difference of half a number and 7 Expression OR Equation
6. 8 less than a number Expression OR Equation
7. The cube of a number increased by 3 Expression OR Equation
8. The product of a number and -5 is 40 Expression OR Equation
9. Twice the sum of a number and 8 Expression OR Equation
10. 32 is a number decreased by 12 Expression OR Equation
11. A number to the 5<sup>th</sup> power divided by -4 Expression OR Equation

Decide if each problem is an equation or an expression. If it is an expression, simplify the expression. If it is an equation, solve the equation.

12.  $\frac{1}{2}(x-10) = 6$

Expression  
OR  
Equation

13.  $4x - 2(x-7)$

Expression  
OR  
Equation

14.  $2x + 4.8 + 3x = 20.3$

Expression  
OR  
Equation

15.  $7x + 8 = -3x - 12$

Expression  
OR  
Equation

16.  $8 + 3(2x - 5) + x$

Expression  
OR  
Equation

17.  $\frac{1}{4}x + \frac{1}{2} - \frac{3}{4}x$

Expression  
OR  
Equation

18.  $\frac{x+10}{3} = -2$

Expression  
OR  
Equation

19.  $2x + 9 - 5x + 1$

Expression  
OR  
Equation

20. Two angles are complement. One of the angles is 30 more than twice the other angle. Find the measure of each angle.

21. A segment has a total length of 16 cm. One portion of the segment is 5 less than half the other portion. Find the length of each portion of the segment.