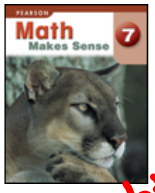
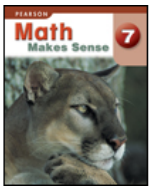



## Warm Up Grade 7




8-6 = $2 but subtracted 6 cents too much ⇒ $2.06

Use mental math.

1) $8.00 - $5.94

8 - 5 = $3
- 0.94
$2.06

7 91
~~8.00~~
- 5.94
2.06

2) $\frac{1}{1} - \frac{5}{6}$

$\frac{6}{6} - \frac{5}{6}$

$\frac{1}{6}$

3) 43 x 20 =

860

5) What is the difference from an expression and an equation?

no equal sign

have = equal sign

Write an **algebraic expression** for each statement.

let $n$ = a number

1. eight more than a number

$n + 8$

2. two less than seven times a number

$7n - 2$

3. a number divided by 6

$n \div 6$ or $\frac{n}{6}$

---

Evaluate each **expression.**

1. $x - 9$ for $x = -5$

$(-5) - (9)$

$(-5) + (-9) = -14$

2. $4p$ for $p = 3$

$4(3)$

$= 12$

3. $-6 + n$ for $n = -2$

$(-6) + (-2) = -8$

4. $m - 2$ for $m = -3$

$(m) - 2$

$(-3) - (2)$

$(-3) + (-2)$

$-5$

## Algebraic Equations

What is a variable? letter = # that changes

What is an algebraic expression? → variable, operations (No equal)

What terms are associated with addition? more, add, greater, increase, sum

subtraction? less, subtract, less than, decrease, difference.

multiplication? ↳ repeated, product, double, triple

division? quotient, share, half, third, quarter

What is an equation? var, operation, Equal =

What is the difference between an algebraic expression and an algebraic equation?

# Algebraic Equations

**An algebraic expression contains a variable and an operation.**

**An algebraic equation contains an algebraic expression plus it also has an equal sign.**

**Example 1) twice a number increased by 4 is 10**

**LET x represents the number**

$2x + 4 = 10$

**Example 2) a number divided by 8 decreased by 3 is 27**

**LET n represents the number**

$n/8 - 3 = 27$

**Often you will be given word problems, where you have to determine what the unknown is, choose a variable, then write and solve the equation.**

$S = 2A + 4$

**Example: Sue is double Andy's age increased by 4. If Sue is 44, how old is Andy?** $44 = 2A + 4$

**Let a represent Andy's age**

$2a + 4 = 44$

## Write an algebraic equation for each sentence.

**(a) 4 times my hourly wage is $36**

**(b) If Sandi had earned $8 more, she would have earned $110**

**(c) Amab spent $3 and has $17 left**

**(d) $5 more than Melina's savings is $320**

**(e) one half of Carlo's pay is $45**

**(f) Six added to one half a number is seven.**

**(g) the amount of snowfall decreased by 10 is 21cm.**

**(h) 5 times Dave's height increased by 45 is 785.**

(a) 4 times my hourly wage is $36 $4h = 36$

h = wage

(b) If Sandi had earned $8 more, she would have earned $110

s = Sandi's earnings $s + 8 = 110$

(c) Amab spent $3 and has $17 left

m = money at beginning $m - 3 = 17$

(d) $5 more than Melina's savings is $320

m = savings $m + 5 = 320$

(e) one half of Carlo's pay is $45

c = Carlo's pay $\frac{c}{2} = 45$

(f) Six added to one half a number is seven.

n = number $\frac{n}{2} + 6 = 7$

(g) the amount of snowfall decreased by 10 is 21cm.

n = amt of snowfall $n - 10 = 21$

(h) 5 times Dave's height increased by 45 is 785.

a = Dave's height $5a + 45 = 785$

Homework Grade 7 Equations Sheet #1-6

**Grade 7 Unit 6**
**Equations Sheet**

**1.** Write a sentence for each equation.
**a)** $n + 11 = 15$ **b)** $4n = 24$ **c)** $n/6 = 5$ **d)** $3n + 4 = 19$

**2.** Write an equation for each sentence.
**a)** Two more than five times a number is 17.

**b)** Shawn's age 9 years from now will be 23.

**c)** The perimeter of a regular hexagon with side length $s$ centimetres is 42 cm.

**d)** The cost of three boxes of popcorn at $3 each, and two drinks at $x$ dollars each is $17.

**4.** Write an equation to represent each situation.
**a)** Samantha has 16 CDs. She has 4 more CDs than Marlene. How many CDs does Marlene have?

**b)** Juni doubles the number of comic books he has, he will have 14 comic books. How many comic books does Juni have?

**c)** Five more than three times a number is 17. W hat is the number?

**d)** In the game of Yonder, a player scores $x$ points for a Pika and 3 points for a Grinner. Samuel scored 20 points. He had 4 Grinners and 2 Pikas. How many points is one Pika worth?

**5.** Describe a situation that can be represented by the equation $2n + 3 = 15$.

**6.** Angelica is thinking of a number. She multiplies it by 5 and then adds 7. The result is 22. Write an equation to represent this situation.

## Attachments

Worksheet 1 Grade 7 Equations Sheet PDF.pdf