1.1-1.4 Study Guide

Simplify using the order of operations:

Ex: $8 + 10 ÷ 5 − 3$ 

$7$ 

Ex: $5^2 − 8 · 2$ 

$9$ 

Ex: $\frac{16 ÷ 4}{16 − 3 · 4}$ 

$11$ 

Ex: $25 − (2 + 2) · 3$ 

$13$ 

Write the power:

Ex: $6 · 6 · 6 · 6$ 

$6^5$ 

Ex: $4$ squared 

$4^2$ 

Evaluate the power:

Ex: $3^2$ 

$9$ 

Ex: $1^4$ 

$1$ 

Ex: $2^4$ 

$16$ 

Evaluate the expression:

Ex: $7 · (2a − 1)$ when $a = 3$ 

$35$ 

Ex: $4c^2 − 2c$ when $c = 5$ 

$90$ 

Ex: $40 − \frac{32}{x}$ when $x = 4$ 

$32$ 

Ex: $13 − 3x ÷ 5 + 9$ when $x = 5$ 

$19$
Translate the verbal phrase into an algebraic expression

Ex: The product of 11 and a number \( x \)

\[ 11x \]

Ex: The quotient of a number \( b \) and 15

\[ \frac{b}{15} \]

Ex: Twice the sum of a number and 2

\[ 2(x + 2) \]

Find the unit rate:

Ex: $75 for 5 video games

$15 per game

Ex: 32 pencils in 8 boxes

4 pencils per box

Translate the verbal phrase into an equation or inequality

Ex: The difference of a number \( c \) and 17 is greater than 33

\[ c - 17 > 33 \]

Ex: The sum of 14 and twice a number \( x \) is 21

\[ 14 + 2x = 21 \]

Check whether the given number is a solution to the equation or inequality. Show your work.

Ex: \( 6x + 7 = 25; \ x = 3 \)

\[ 25 = 25 \text{ YES} \]

Ex: \( \frac{m}{3} + 30 < 33 ; \ m = 9 \)

\[ 33 < 33 \text{ NO} \]

Ex: \( 6a + 9 \geq 21; \ a = 2 \)

\[ 21 \geq 21 \text{ YES} \]