Algebra 2 Honors

# Expressions, Equations & Inequalities

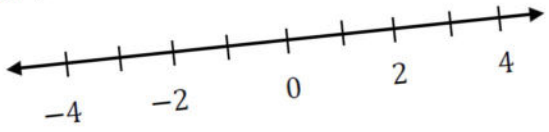
Date _____ Period _____

**Warm-Up #1**

## Lesson 1.1: Properties of Real Numbers

**1.** Graph the numbers on a number line.

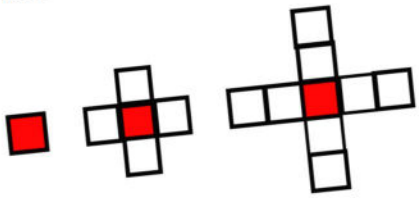
**A.** $\sqrt{2}$ **B.** $-2.5$ **C.** $\frac{7}{2}$




**2.** Compare the two numbers. Use > or <.

5 $\sqrt{26}$

**3.** Draw the next figure in the pattern.



**4.** Complete the table to show the number of blocks in the pattern at left. Write a rule for the pattern.

| Pattern | 1 | 2 | 3 | 4 | *n* |
|---|---|---|---|---|---|
| Blocks | | | | | |

# Warm-Ups 1

Completely Editable

# ALGEBRA 2 HONORS CURRICULUM

## Scope and Sequence

### Unit I: Expressions, Equations & Inequalities

| SECTION | LESSON | DAYS |
|---|---|---|
| **UNIT 1** | **Expressions, Equations, and Inequalities** | **14** |
| **1–1** | Properties of Real Numbers | 1 |
| **1–2** | Algebraic Expressions | 1 |
| **1–3** | Solving Equations | 2 |
| **1–4** | Solving Inequalities | 1 |
| **1–5** | Absolute Value Equations and Inequalities | 2 |

© 2021 Jean Adams, All rights reserved.

# ALGEBRA 2 CURRICULUM

## Scope and Sequence

### Unit 1: Expressions, Equations & Inequalities

| Lesson | Skills & Learning Objectives |
|---|---|
| [1.1]<br>Properties of Real Numbers | ❑ Graph and order real numbers<br>❑ Represent numbers in a variety of equivalent forms |
| [1.2]<br>Algebraic Expressions | ❑ Understand and evaluate representations of algebraic expressions<br>❑ Use order of operations to simplify expressions |
| [1.3]<br>Solving Equations | ❑ Solve two-step equations, multi-step equations<br>❑ Solve equations with grouping symbols and variables on both sides<br>❑ Solve literal equations and formulas<br>❑ Solve equations that are identities and have no solution |
| [1.4]<br>Solving Inequalities | ❑ Solve inequalities and graph solution sets<br>❑ Solve compound inequalities<br>❑ Write inequalities to solve real-world applications |
| [1.5]<br>Absolute Value Equations and Inequalities | ❑ Solve absolute value equations and graph solution sets<br>❑ Solve absolute value inequalities and graph solution sets<br>❑ Write inequalities to solve real-world applications |

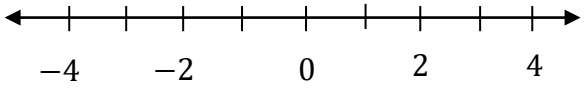
© Flamingo Math 2022

Name _____ Date _____ Period _____

## Lesson 1.1: Properties of Real Numbers — Warm-Up #1

**1.** Graph the numbers on a number line.

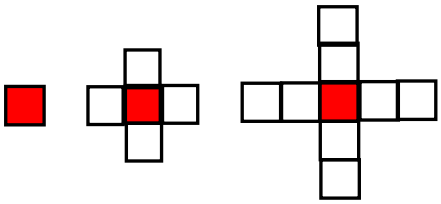
**A.** $\sqrt{2}$ **B.** $-2.5$ **C.** $\frac{7}{2}$




**2.** Compare the two numbers. Use > or <.

$5$ $\sqrt{26}$

3. Draw the next figure in the pattern.



**4.** Complete the table to show the number of blocks in the pattern at left. Write a rule for the pattern.

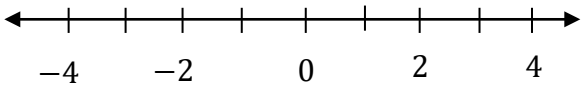
| **Pattern** | **1** | **2** | **3** | **4** | ***n*** |
|---|---|---|---|---|---|
| **Blocks** | | | | | |

Name _____ Date _____ Period _____

## Lesson 1.1: Properties of Real Numbers — Warm-Up #2

**1.** Graph the numbers on a number line.

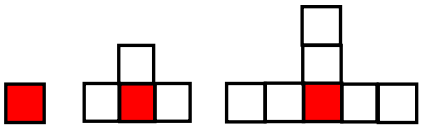
**A.** $-3.5$ **B.** $\pi$ **C.** $\frac{3}{4}$




**2.** Compare the two numbers. Use > or <.

$4$ $\sqrt{15}$

3. Draw the next figure in the pattern.



**4.** Complete the table to show the number of blocks in the pattern at left. Write a rule for the pattern.

| **Pattern** | **1** | **2** | **3** | **4** | ***n*** |
|---|---|---|---|---|---|
| **Blocks** | | | | | |

Name _____ Date _____ Period _____

## Lesson I.2: Algebraic Expressions — Warm-Up #1

**1.** Write an algebraic expression that models the phrase: "*The sum of 8 and the product of 3 and a number w.*"

**2.** Write an algebraic expression to model: "*Alex has $825 and is earning $250 each week walking dogs.*"

**3.** Evaluate for the given values.
$-3w + 2(x + 4w) - 5x$ ; $w = -4$ and $x = 3$

**4.** Simplify by combining like terms.
$5(x^2 - y) - 3(x^2 + 2y)$

Name _____ Date _____ Period _____

## Lesson I.2: Algebraic Expressions — Warm-Up #2

**1.** Write an algebraic expression that models the phrase: "*The difference of 9 and the product of 5 and a number y.*"

**2.** Write an algebraic expression to model: "*Amy has $450 and is earning $140 each week mowing lawns.*"

**3.** Evaluate for the given values.
$-2w + 5(x + 3w) - 4x$ ; $w = -5$ and $x = 2$

**4.** Simplify by combining like terms.
$6(x^2 + y) - 2(x^2 - 3y)$

Name _____ Date _____ Period _____

## Lesson 1.4: Solving Inequalities — Warm-Up #1

**1.** Write an inequality that represents the sentence.

*"Twice a number is at least 17."*

**2.** Write an inequality that represents the sentence.

*"The quotient of a number and 4 is at most 8."*

**3.** Solve and graph the solution.

$3(x - 2) > 15$

**4.** Solve and graph the solution.

$5x - 2(x + 1) \geq 8$

Name _____ Date _____ Period _____

## Lesson 1.4: Solving Inequalities — Warm-Up #2

**1.** Write an inequality that represents the sentence.

*"Twice a number is at most 13."*

**2.** Write an inequality that represents the sentence.

*"The quotient of a number and 3 is at least 9."*

**3.** Solve and graph the solution.

$2(x + 3) > 16$

**4.** Solve and graph the solution.

$8x - 3(x + 1) \leq 10$