

1.1 Algebraic Equations

Warm-Up

Express in algebraic phrase.

5 more than a number

Twice an integer increased by 5

5 less than a number

5 less than three times a number

Main Topic Algebraic Equations



T A S K

1

- Find a business partner.
- List several business ideas.
- Pick the business idea that will be profitable.
- When ready, fill out the form on the next page.



Need Help?

Business Proposal Form

Company Name		Company Owner(s)	
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Business Description	
List products or services.	Plan to sell products/Plan to provide the service.
Target customers.	Marketing plans.

Finances	
Source of funds.	Equipment needed and their costs.
Product/service charges to customers.	Monthly expenses.
Total Monthly Revenue:	Total Monthly Expense:

Additional information.

Accounting Equation

Accounting equation states that the company's asset is the sum of its liability and equity.

Asset

How much the company owns.

=

Liability

How much a company owes.

+

Equity

How much the investor's contribution

One-Step Equations

Solve for x .

<table border="1"> <thead> <tr> <th>Asset</th> <th>Liability</th> <th>Equity</th> </tr> </thead> <tbody> <tr> <td>x</td> <td>\$1,000</td> <td>\$500</td> </tr> </tbody> </table>	Asset	Liability	Equity	x	\$1,000	\$500	<table border="1"> <thead> <tr> <th>Asset</th> <th>Liability</th> <th>Equity</th> </tr> </thead> <tbody> <tr> <td>\$2,000</td> <td>$x$</td> <td>\$200</td> </tr> </tbody> </table>	Asset	Liability	Equity	\$2,000	x	\$200
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Algebra Tiles

Use algebra tiles to demonstrate solving for x .

$$x + 5 = 2$$

$$x - 5 = 2$$

$$5 = 2 - x$$

$$5 - x = 2$$



Need Help?

Two-Step Equations

Use algebra tiles to demonstrate solving for x .

$2x - 1 = 5$	$2x - 2 = 5$
$3x + 2 = 7$	$3x + 1 = 13$

Solve for x algebraically.

$2x - 1 = 5$	$2x - 2 = 5$
$2 - 3x = 7$	$3x + 1 = 13$

Speed Math

Answer as many questions as you can in 2 minutes.

$2x - 1 = 9$

$2x + 1 = 9$

$2x - 1 = -9$

$-2x - 1 = 9$

$2x - x = 9$

$2x + x = 9$

$-2x + x = 9$

$-2x - x = 9$

$\frac{x}{2} = 9$

$\frac{x}{3} = 9$

$\frac{x}{2} = -9$

$-\frac{x}{2} = 9$



Multi-Step Equations

Solve for x.

$$5x - 1 = 4x + 9$$

$$7x + 3 + x = 10 - 2x - 12$$

$$2(x - 5) = x + 6$$

$$4 - 3(2x - 7) = 8 - 5x$$

$$\frac{3x}{2} - 5 = 17$$

$$5 - \frac{x}{2} = 17$$

$$\frac{3x - 5}{2} = 17$$

$$\frac{3(x + 5)}{2} = 17$$

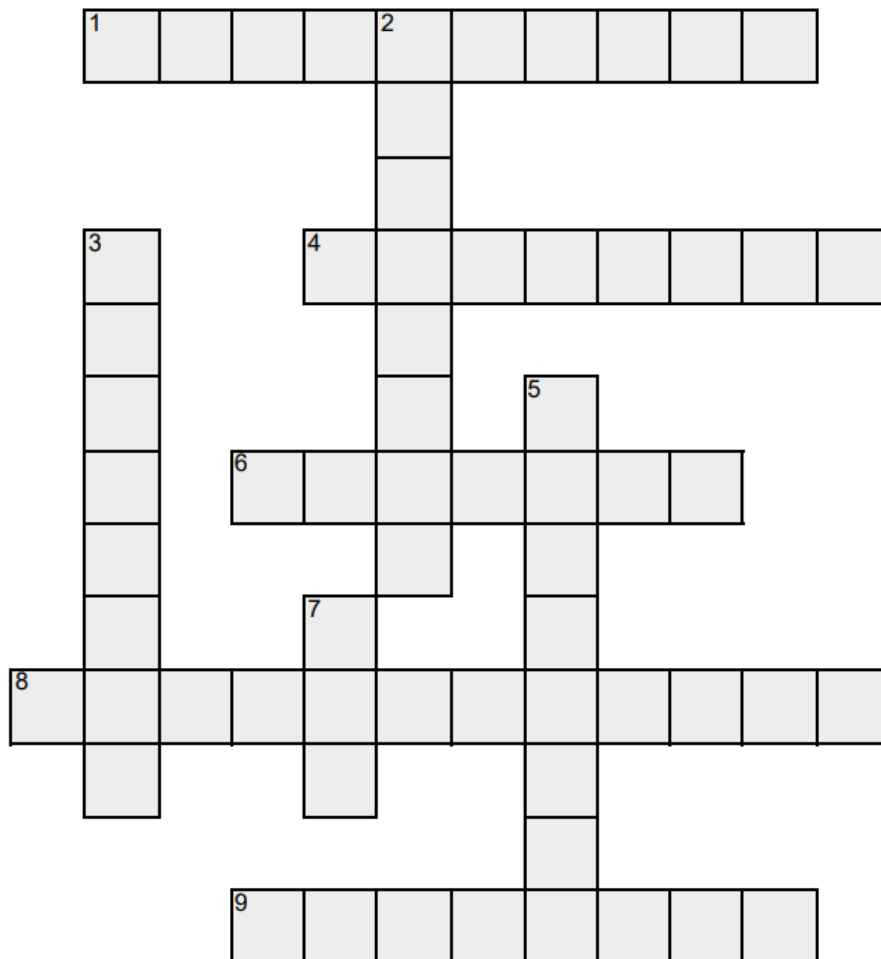
$$\frac{3x - 5}{2} = \frac{x + 4}{7}$$

$$\frac{3x - 5}{x + 4} = \frac{2}{7}$$



End-of-Course Prep

Equations and Inequalities



Across	Down
1. A mathematical phrase that consists of numbers, variables, and operations.	2. A mathematical statement of two equal expressions.
4. A letter or symbol in mathematical expression representing an unknown value.	3. A fixed value in an expression that does not change.
6. The result when multiplying numbers or expressions.	5. The result when dividing numbers or expressions.
8. A statement that compares two expressions.	7. The result when adding numbers or expressions.
9. A set of values that satisfies a statement.	