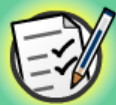


$$5 \times 7 = 35$$
$$20 + 2 = 22$$

# Introducing Algebra



## Common core icons



This icon indicates a slide where the Standards for Mathematical Practice are being developed. Details of these are given in the Notes field.



Slides containing examples of mathematical modeling are marked with this stamp.



This icon indicates an opportunity for discussion or group work.

The **Standards for Mathematical Practice** outlined in the Common Core State Standards for Mathematics describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

These are:

- 1) Make sense of problems and persevere in solving them.**
- 2) Reason abstractly and quantitatively.**
- 3) Construct viable arguments and critique the reasoning of others.**
- 4) Model with mathematics.**
- 5) Use appropriate tools strategically.**
- 6) Attend to precision.**
- 7) Look for and make use of structure.**
- 8) Look for and express regularity in repeated reasoning.**



This icon indicates that the slide contains activities created in Flash. These activities are not editable.



This icon indicates teacher's notes in the Notes field.

# What is algebra?

Alex has 5 red pens and 7 blue pens. He gave 2 pens to Charlie. How many pens does Alex have now?

Write a number sentence using the information in the question.

$$5 + 7 - 2 = ?$$

When you use a symbol (such as a question mark) to represent an unknown number, this is known as **algebra**.



In math, we usually use **letters** to stand for unknown numbers.



I'm trying to save \$20! Last week I saved \$8, and this week I saved \$5. How much more do I need to save?

We can use a letter to write a number sentence to describe Nicole's question:

$$8 + 5 + d = 20$$

Here, we have used 'd' for dollars, but we could have used any letter!



Can you match each word problem to the correct equation?

There are 14 girls in Nicole's class, and 28 children altogether. How many boys are there?

$$J \times 4 = 24$$

A movie theater holds 96 people, seated in rows of 16. How many rows are there altogether?

$$96 \div 16 = r$$

Tom has 4 times as many video games as Jack. If Tom has 24 video games, how many does Jack have?

$$14 + b = 28$$





Nicole went to the grocery store with her mom. They bought 8 bananas, 6 oranges, and some apples. They bought 18 pieces of fruit altogether. How many apples did they buy?

Press the buttons  
for help:

Analyze

Plan

Solve

Check





Alex plays piano for 20 minutes every day. On Saturdays, he plays for longer. After seven days, Alex had played for 200 minutes. How many extra minutes does he play on a Saturday?

Press the buttons for help:

Analyze

Plan

Solve

Check





Alex would like to buy 200 pieces of candy. He has already bought 35 gumballs and 80 jelly beans. How many chocolate drops should he buy?



Can you use "analyze, plan, solve and check" to find the answer?

