


## The Number System

Students add，subtract，multiply，and divide multi－ digit whole numbers and decimals to the hundredths to solve real－world problems．They divide fractions by fractions and apply to familiar situations．They understand positive and negative numbers and plot points on a four quadrant grid．

## Jane Scored Near Proficient

## Modeling and Reasoning

Students analyze，make sense of，and apply mathematics to solve real－world problems．They draw， justify，and communicate conclusions or inferences supported by logical and mathematical thinking． EDUCATION．OHIO．GOV

WHAT THESE RESULTS MEAN
Your child uses models to divide fractions by fractions， uses number lines to compare negative numbers， finds common factors and multiples（for 8 and 12,4 is a common factor，and 24 is a common multiple），and performs operations on multi－digit decimals．

NEXT STEPS
With your child，use visual models to help divide a fraction by a fraction．Pick a point at random on the coordinate plane，and have your child find it．Provide opportunities to add，subtract，multiply，and divide multi－digit decimals．

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 mathematically．Your child＇s thinking relates skills and concepts to mathematical principles．
## NEXT STEPS

Your child needs to use more mathematical terms， symbols and models when solving and explaining real－world problems．

的平均得分（校區平均得分），俄亥俄州公立學校同一年級全體學生的平均得分（全州平均得分）。

## 

finds area，volume and surface area with umber side lengths but may struggle with al lengths．She shows numerical data in ue of a set of data．

THE OHIO DEPARTMENT OF EDUCATION

score is 706.
She has performed
「各個範疇的描述」顯示在最左列，描述在各個範疇中熟練的學生可以進行的任務。

State

What a your child＇s strengths and weaknesse一般理解。


Limited understands （comparing ne problems，and or subtracting．

## Students understand and use ratios（comparing

 numbers by division），unit rates（like price per ounce）， and percents to describe relationships between numbers and solve real－world problems．They use ratios and unit rates to create tables of equal ratios， graphs，and convert units of measurement．「這些成績代表的意思」：一節按照貴子女的能力水平描述他（她）對此範疇內容的WHAT THESE RESULTS MEAN
Your child uses the understanding of ratios，rates and percents to describe relationships between numbers， to create ratio tables and to solve problems．She uses ratio tables to convert units of measure．
ent with a score of Limited e whole numbers，uses ratio s by division）to solve simple s simple equations by addins

## in Mathematics？

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## Expressions and Equations

Students write expressions for situations．They find values of expressions with exponents（like $4^{3}$ ）and letters that stand for numbers（when $p=3$ ，then $2 p=6$ ）． They identify or create equivalent expressions（like $x+3 x=4 x)$ ．They write and solve 1 －step equations or inequalities like $x+3=5$ or $2 x>10$ ．

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WHAT THESE RESULTS MEAN
Your child writes and finds the value of expressions with exponents like $2^{5}$ and variables like $2 x+1$ for situations；identifies equivalent expressions like $2 x+5 x+3 x=10 x$ ；writes and solves one－step equations and writes inequalities like $x+4=13$ or $2 x<6$ ．

## NEXT STEPS

Ask your child to represent a real－world context symbolically（ 50 miles per hour can be shown as $50 t$ ， where $t$ is hours）．Have your child create a driving－ time plan to reach a destination，considering miles and speed limits．

## Geometry and Statistics

Students solve problems by finding the area and volume of complex figures and surface areas of solids using different strategies，and drawing polygons in coordinate grids．They use graphs to show and interpret data based on how spread out the data are and their central values．

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## WHAT THESE RESULTS MEAN

Your child finds area，volume and surface area with whole number side lengths but may struggle with fractional lengths．She shows numerical data in different ways，and finds the average and middle value of a set of data．

## NEXT STEPS

With your child，model operations using expressions like $2(x+5)$ ．Use blue tiles as＂$x$＂and green tiles as＂ 1. ．＂ Show $2(x+5)$ as 2 groups of $x+5$（ 1 blue and 5 green tiles）．Regroup the tiles to see there are 2 blue tiles and 10 green tiles，so $2(x+5)=2 x+10$ ．

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WHAT THESE RESULTS MEAN
Your child uses models to divide fractions by fractions， uses number lines to compare negative numbers， finds common factors and multiples（for 8 and 12,4 is a common factor，and 24 is a common multiple），and performs operations on multi－digit decimals．

NEXT STEPS
With your child，talk about different objects（walls， floors，boxes），and when to find area and volume． Discuss filling（volume）and covering（area）real－life situations．Measure some objects and compute the area or volume．

## Modeling and Reasoning

Students analyze，make sense of，and apply mathematics to solve real－world problems．They draw， justify，and communicate conclusions or inferences supported by logical and mathematical thinking．
EDUCATION．OHIO．GOV

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## WHAT THESE RESULTS MEAN

Your child solves most routine real－world problems mathematically．Your child＇s thinking relates skills and concepts to mathematical principles．

NEXT STEPS
With your child，use visual models to help divide a fraction by a fraction．Pick a point at random on the coordinate plane，and have your child find it．Provide opportunities to add，subtract，multiply，and divide multi－digit decimals．

## NEXT STEPS

Your child needs to use more mathematical terms， symbols and models when solving and explaining real－world problems．

## 進行俄亥俄州測驗的目的是什麼？

我們可以透過本州實施的學能測驗，瞭解學生在
「俄亥俄州學習標準」列出的知識和技能上表現如何。這些測驗對未來的教學工作具有指導和強化作用，我們從而可以確定為學生作好準備，讓他們長遠在學校，高等院校，職業和生活上取得成就。測驗成績同時讓一般公民知道，他們所屬地區的學校與州內其他地區的學校在表現上有何異同。

## 測驗是如何開發出來的？

測驗開發是一個覆蓋甚廣而且不斷進行的過程，確保本州進行的各項測驗是檢測學生知識和技能的有效和合適工具。

俄亥俄州教育廳與俄亥俄州教育界和「美國研究所」（American Institutes for Research）攜手開發本州各項測驗。各個內容顧問委員會以及公平及敏感度委員會討論測驗問題是否準確公

平，是否適合課程，是否能夠檢測「俄亥俄州學習標準」所列的各個方面。

測驗建立後，組成標準釐定委員會的另一組教育工作者對五項表現水平的決斷得分表達建議。本州教育局批准這些建議。在俄亥俄州測驗門戶網站的 報告資源專頁 可以找到各項標準和表現水平描述。

## 如果得分報告上空白或沒有顯示得分怎麼

辦？如果貴子女的測驗無效，報告將不會顯示任何得分。此外，此節第3頁關於貴子女強項和弱項的詳情將會顯示「沒有任何數據提供，如有疑問，請諮詢貴子女的教師。」如果您對這些陳述存有疑問或顧慮，請聯絡貴子女的學校。

## 詞彙／釋義表

內容範疇：內容範疇也就是科目的意思（例如英語藝術，數學，科學和社會）。
俄亥俄州學習標準：俄亥俄州學習標準定義學生應有的知識和技能。在俄亥俄州教育廳網站 education．ohio．gov 可以找到俄亥俄州學習標準的相關資訊。

表現水平：每個科目都有五項學能表現水平。其中三項表現水平（「高階」，「加速」和「熟練」）的得分都是高於界定熟練的得分 700。其中兩項表現水平（「基本」和「限制」）的得分都是低於界定熟練的得分。「加速」表現水平表示學生正在為入讀高等院校和就業作好準備。每項科目範疇都有針對各項表現水平的具體描述，其稱為「表現水平描述」。針對所有內容範疇的「表現水平描述」可以在俄亥俄州測驗門戶網站的 報告資源專頁 找到。

報告種類：每項測驗有三至五項報告種類。報告種類是每項科目中的主要測驗範疇。例如，小學三年級數學科內的測驗範疇包括乘除法，數字和運算，分數，幾何，建模和推理。

報告種類指標：顯示技能或學習標準相若的多個小組在各個報告種類得出的測驗成績。例如，小學三年級數學的一個報告種類是乘除法。測驗成績顯示學生在乘除法（或在報告種類中的其他範疇）上的表現，將以指標而非得分呈現。這些指標包括「有欠熟練」，「近乎熟練」和「超乎熟練」。

得分：由於不同測驗形式上的原始得分（實際得分）無法比較，所以要轉換成量表得分作報告用途。量表得分使在不同情況下進行的相同測驗得以比較。例如，今年參加小學三年級英語藝術州立測驗的學生的量表得分可與去年參加相同測驗的小學三年級學生的量表得分作比較。 不同科目的量表得分無法比較。

