Mathematics | Grade 6

I G ade 6, c a e d f c f c ca a ea : (1) c ec g a a d a e e be ca a d d a d g c ce f a a d a e e be ; (2) c e g de a d g f d f f ac a d e e d g e f be e e f a a be , c c de ega e be ; (3) g, e e g, a d g e e a d e a ; a d (4) de e g de a d g f a ca g.

(1) S de e ea g ab ca a d d e a a d a e be ab a e . B e g e a e a a d a e a de g f , a d e e d g, f (c) e ca abe, a d b a a g e d a g a d ca e e ea e e f a e , de c ec e de a d g f ca a d d a a d a e . T de e d e c f be f c e ca e ca a d d

ed a e be d g ed b e a ab . S de ea de c be
a d a e e ca da a e , de f g c e , a , ga , a d
e , c de g e c e c e da a e e c ec ed.

S de G ade 6 a b d e a ea e e e a
c b ea g ab e a a g a de e e a ea,
face a ea, a d e. T e , d a ea f g a g e , e a g e ,
a d ca ad a e a b dec g e e a , ea a g g
e g ce , a d e a g e a ec a g e . U g e e
e d , de d c , de e a d f f a f a ea f
a g e a d a e g a . S de , d a ea f g a d face
a ea f a d a d b dec g e ce e
a ea e ca de e e. T e ea ab g ec a g a
f ac a de e g e e d f a f e e f a g
ec a g a f ac a de e g . T e e e f
ca e d a g a d c c G ade 7 b d a g g e
c d a e a e.

Grade 6 Overview

Ratios and Proportional Relationships

- **Understand ratio concepts and use ratio reasoning to solve problems.**

The Number System

- **Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**
- **Compute fluently with multi-digit numbers and find common factors and multiples.**
- **Apply and extend previous understandings of numbers to the system of rational numbers.**

Expressions and Equations

- **Apply and extend previous understandings of arithmetic to algebraic expressions.**
- **Reason about and solve one-variable equations and inequalities.**
- **Represent and analyze quantitative relationships between dependent and independent variables.**

Geometry

- **Solve real-world and mathematical problems involving area, surface area, and volume.**

Statistics and Probability

- **Develop understanding of statistical variability.**
- **Summarize and describe distributions.**

Mathematical Practices

1. Ma e e e f be a d e e e g e .
2. Rea ab ac a d a a e .
3. C c abe a g e a d c e e ea g f e .
4. M de a e a c .
5. U e a a e a eg ca .
6. A e d ec .
7. L f a d a e e f c e.
8. L f a de e eg a e a ed ea g.

Ratios and Proportional Relationships 6.RP

Understand ratio concepts and use ratio reasoning to solve problems.

1. U de a d ec ce f a a a d e a a g age de c be a a e a be ee a e . *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*

2. U de a d ec ce f a a e *a/b* a c a ed a a *a:b* *b* ≠ 0, a d e a e a g age e c e f a a e a . *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*[1]

3. U e a a d a e ea g e ea- d a d a e a ca be , e.g., b ea g ab abe f e a e a , a d a g a , d b e be e d a g a , 1 e6ab e f e a e b bed

Apply and extend previous understandings of numbers to the system of rational numbers.

5. U de a d a

b. Ide f a e g a e a ca e (, e , d c , fac , e , c ef. ce); e e e a f a e a a gee . *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.*

c. E a aee e a c. c a e f e a abe. I c de e a a ef f a ed ea- d be . Pe f a e c a , c d g e g- be e e , ec e a de e eeae e e ec f a c a de (O de f O a). *For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.*

3. A e e e f a ge eaee ae e . *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.*

4. Ide f e e e aee ae (.e., e e e a e e a e be ega de f c a e b ed e). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*

Reason about and solve one-variable equations and inequalities.

5. U de a d g a e a e a a ce f a e ga e : c a e f a c. ed e , fa , a e ee a e a e? U e b de e e e e ag e be a c. ed e a e a e a e a e.

6. U e a abe e e e be a d ee e e ga ea- d a e a ca be ; de a d a a a abe ca e e e a be , , de d g e ea a d, a be a c. ed e .

7. S e ea- d a d a e a ca be b g a d g e a f ef $x + p = q$ a d $px = q$ f ca e c p, q a d x a e a ega e a a be .

8. W e a e a f ef $x > c$ $x < c$ e e e ac a c d a ea- d a e a ca be . Rec g e a e a e f ef $x > c$ $x < c$ a e . e a ; e e e f c e a e be edaga .

Represent and analyze quantitative relationships between dependent and independent variables.

9. U e a abe e e e a e a ea- d be a c a ge ea e a e ; ea e a e e e a , g fa e de de a abe, e f e e a , g fa e de de a abe. A a e e ea be ee e de de a d de de a abe g ga a d abe , a d ea e e e e a . *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.*

Geometry 6.G

Solve real-world and mathematical problems involving area, surface area, and volume.

1. F d ea ea f g a ge , e a ge , ec a ad a e a , a d g b c g ec a ge dec g a ge a d e a ; a e e ec e ec e f g ea- d a d a e a ca be .

2. F d e e f a g ec a g a f ac a edge e g b c g c be f ea a e f ac edge e g , a d a e e e a ea d be f d b g e edge e g f e . A e f a $V = lwh$ a d $V = bh$. d e f g ec a g a f ac a edge e g ec e f g ea- d a d a e a ca be .

3. D a g ec d a e a e g e c d a e f e e ce ; ec d a e . d e e g fa de g e a e . c d a e e a e ec dc d a e. A e e ec é ec e f g ea- d a d a e a ca be .

4. Re e e ee-d e a g e g e ade f ec a g e a d a g e , a d e e e . d e face a ea f e e g e . A e e ec e ec e f g ea- d a d a e a ca be . a ea