Fractions, Ratios, and Number Concepts: Study Guide

Everything you need to master fractions, ratios, and number basics!

Chapter 1: Number Concepts

What is a Whole Number?

A **whole number** is any of the numbers 0, 1, 2, 3, and so on. Whole numbers do not have fractions or decimals and are not negative.

What is Place Value?

Place value is the value of each digit in a number, based on its position. For example, in 3,245, the 3 is in the thousands place, so its value is 3,000.

What is Absolute Value?

The **absolute value** of a number is its distance from 0 on the number line, without considering direction. For example, the absolute value of -5 is 5, and the absolute value of 5 is also 5.

What is Distance?

In math, **distance** usually refers to how far apart two numbers are on a number line, which is the absolute value of their difference.

Example: The distance between 2 and -3 is **|2 - (-3)| = |2 + 3| = 5**.

Chapter 2: Fractions Operations

- **Changing Improper Fractions to Mixed Numbers:** Divide the numerator by the denominator. The quotient is the whole number, and the remainder over the denominator is the fraction part.
- **Changing Mixed Numbers to Improper Fractions:** Multiply the whole number by the denominator, add the numerator, and write the result over the denominator.
- **Adding Fractions with Like Denominators:** Add the numerators. Keep the denominator the same.
- **Subtracting Fractions with Like Denominators:** Subtract the numerators. Keep the denominator the same.
- **Adding/Subtracting Fractions with Unlike Denominators:** Find a common denominator, convert fractions, then add or subtract numerators.
- **Adding/Subtracting Mixed Numbers with Unlike Denominators:** Convert to improper fractions, find a common denominator, add/subtract, then simplify.
- **Estimating Sums & Differences:** Round fractions to the nearest half or whole number to estimate answers.

Multiplication & Division

- **Multiplying Fractions & Whole Numbers:** Multiply the numerator by the whole number, keep the denominator.
- **Reciprocals:** Two numbers are reciprocals if their product is 1 (e.g., 2/3 and 3/2).
- **Multiplying Fractions and Mixed Numbers:** Convert mixed numbers to improper fractions, multiply, then simplify.
- **Dividing Fractions by Whole Numbers:** Multiply by the reciprocal of the whole number (make it a fraction first).
- **Dividing Whole Numbers by Fractions:** Multiply the whole number by the reciprocal of the fraction.
- **Dividing Fractions by Fractions:** Multiply by the reciprocal of the divisor fraction.
- **Dividing Mixed Numbers:** Convert to improper fractions, then divide as fractions.

Chapter 3: Ratios & Proportions

- **Ratios:** Compare two quantities. Written as a:b, a/b, or "a to b".
- **Proportions & Cross-Multiplying:** An equation stating two ratios are equal; cross-multiply to solve.
- **Ratio Tables:** Tables showing pairs of numbers with the same ratio.
- **Rates:** A ratio comparing two different units (e.g., miles per hour).
- **Problem-Solving with Proportions:** Use proportions to solve for unknowns in real-world problems.

Chapter 4: Worked Examples

> **1. Improper Fraction to Mixed Number:**
> 7/3 = 2 $^{1}/_{3}$ (3 goes into 7 two times with 1 left over)

> **2. Mixed Number to Improper Fraction:**
> 2 $^{1}/_{3}$ = (2×3+1)/3 = 7/3

> **3. Add Fractions (Like Denominators):**
> 2/7 + 3/7 = 5/7

> **4. Add Fractions (Unlike Denominators):**
> 1/4 + 1/6 → common denominator is 12:
> 3/12 + 2/12 = 5/12

> **5. Multiply Fractions:**
> 2/5 × 3/4 = 6/20 = 3/10

> **6. Divide Fractions:**

2/3 ÷ 4/5 = 2/3 × 5/4 = 10/12 = 5/6

7. Ratios:

6 apples to 9 oranges = 6:9 = 2:3

8. Proportion Example:

If 2 pencils cost $1, how much do 10 pencils cost?

2/1 = 10/x ⇒ 2x = 10 ⇒ x = 5; Answer: $5

Chapter 5: Pre-Test (Multiple Choice, 40 Questions)

Q1. Change 9/4 to a mixed number.

- ○ $2\frac{1}{4}$
- ○ $1\frac{3}{4}$
- ○ $2\frac{3}{4}$
- ○ $1\frac{1}{4}$

Q2. Change $3\frac{2}{5}$ to an improper fraction.

- ○ 17/5
- ○ 13/5
- ○ 12/5
- ○ 8/5

Q3. 7/9 + 2/9 = ?

- ○ 9/18
- ○ 1
- ○ 1

- ○ 1

Q4. 5/8 - 1/8 = ?

- ○ 6/8
- ○ 4/8
- ○ 5/16
- ○ 1/8

Q5. 1/2 + 1/3 = ?

- ○ 2/5
- ○ 5/6
- ○ 2/3
- ○ 1

Q6. 3/5 - 1/4 = ?

- ○ 2/5
- ○ 7/20
- ○ 8/9
- ○ 1/2

Q7. $2\frac{1}{6} + 1\frac{2}{3} = ?$

- ○ $3\frac{5}{9}$
- ○ $3\frac{5}{6}$
- ○ $3\frac{3}{4}$
- ○ $3\frac{1}{2}$

Q8. Estimate 3/8 + 7/12.

- ○ About 1
- ○ About 2
- ○ About 3/4
- ○ About 1/2

Q9. Multiply: 4 × 2/7

- ○ 8/7
- ○ 8/28
- ○ 6/7
- ○ 4/14

Q10. What is the reciprocal of 5/8?

- ○ 8/5
- ○ 5/3
- ○ 3/8
- ○ 8/3

Q11. Multiply: $1\frac{1}{2} \times 2/3$

- ○ 1
- ○ $1\frac{1}{3}$
- ○ 1
- ○ $1\frac{2}{3}$

Q12. Divide: 3/4 ÷ 2

- ○ 3/2
- ○ 3/8

- ○ 1/2
- ○ 6/8

Q13. Divide: 5 ÷ 2/3

- ○ 7.5
- ○ 5/3
- ○ 15/2
- ○ 7/3

Q14. Divide: 3/5 ÷ 4/7

- ○ 12/35
- ○ 21/20
- ○ 7/20
- ○ 3/9

Q15. Divide: $1\ ^{3}/_{4} \div 1/2$

- ○ 2 1/2
- ○ 3 1/2
- ○ 1 7/8
- ○ 3 1/4

Q16. What is the ratio of 8 to 12?

- ○ 2:3
- ○ 3:2
- ○ 4:3
- ○ 3:4

Q17. Solve: 4/5 = x/25

- ○ x = 5
- ○ x = 10
- ○ x = 15
- ○ x = 20

Q18. Complete the ratio table: 2:3 = 4:?

- ○ 6
- ○ 8
- ○ 5
- ○ 9

Q19. If 60 miles in 2 hours, what is the rate?

- ○ 30 miles/hour
- ○ 60 miles/hour
- ○ 120 miles/hour
- ○ 15 miles/hour

Q20. A recipe uses 3 cups of flour for 12 cookies. How much flour for 36 cookies?

- ○ 9 cups
- ○ 6 cups
- ○ 12 cups
- ○ 3 cups

Q21. What is a whole number?

- ○ A number without fractions or decimals.
- ○ A positive number.

- ○ A number with a decimal.
- ○ A negative number.

Q22. What is the place value of 6 in 462?

- ○ Tens
- ○ Hundreds
- ○ Ones
- ○ Thousands

Q23. What is the absolute value of -12?

- ○ 12
- ○ 0
- ○ -12
- ○ 1

Q24. What is the distance between 5 and -3?

- ○ 8
- ○ 2
- ○ 5
- ○ 3

Q25. Change 13/5 to a mixed number.

- ○ $2\frac{3}{5}$
- ○ $3\frac{2}{5}$
- ○ $2\frac{1}{5}$
- ○ $1\frac{3}{5}$

Q26. Change 4 $^{1}/_{2}$ to an improper fraction.

- ○ 9/2
- ○ 8/2
- ○ 5/2
- ○ 7/2

Q27. 6/7 + 1/7 = ?

- ○ 1
- ○ 7/14
- ○ 6/14
- ○ 7/7

Q28. 7/10 - 2/10 = ?

- ○ 5/10
- ○ 9/10
- ○ 1/5
- ○ 2/5

Q29. 1/5 + 1/2 = ?

- ○ 2/7
- ○ 7/10
- ○ 3/10
- ○ 1/2

Q30. 4/9 - 1/3 = ?

- ○ 1/6
- ○ 1/3

- ○ 1/9
- ○ 7/9

Q31. $2\ \frac{1}{4} + 1\ \frac{3}{8} = ?$

- ○ $3\ \frac{5}{8}$
- ○ $3\ \frac{1}{2}$
- ○ $3\ \frac{7}{8}$
- ○ $3\ \frac{3}{8}$

Q32. Estimate 5/6 - 1/5.

- ○ About 1/2
- ○ About 2/3
- ○ About 1
- ○ About 1/5

Q33. Multiply: 5 × 3/4

- ○ 15/4
- ○ 8/4
- ○ 15/12
- ○ 5/12

Q34. What is the reciprocal of 7/9?

- ○ 9/7
- ○ 7/7
- ○ 9/1
- ○ 7/9

Q35. Multiply: $2\frac{1}{3} \times 3/5$

- ○ 7/5
- ○ 13/15
- ○ 2/5
- ○ 3/5

Q36. Divide: $2/3 \div 4$

- ○ 2/12
- ○ 2/7
- ○ 1/6
- ○ 8/3

Q37. Divide: $8 \div 1/4$

- ○ 2
- ○ 8/4
- ○ 32
- ○ 4/8

Q38. Divide: $4/7 \div 2/9$

- ○ 9/14
- ○ 18/7
- ○ 8/63
- ○ 13/18

Q39. Divide: $2\frac{1}{2} \div 3/4$

- ○ 10/3
- ○ 8/3

- ○ 3 1/3
- ○ 2 7/8

Grade Pre-Test

Chapter 6: Questions & Answers

Q: How do you find a common denominator?
A: Find the least common multiple (LCM) of the denominators and rewrite each fraction with that denominator.

Q: What is a reciprocal?
A: The reciprocal of a fraction is flipped upside down. For example, the reciprocal of 3/4 is 4/3.

Q: How do you estimate 5/8 + 1/3?
A: 5/8 ≈ 1/2, 1/3 ≈ 1/3, so estimated sum ≈ 1/2 + 1/3 ≈ 5/6.

Q: How do you solve a proportion like 3/4 = x/12?
A: Cross-multiply: 3×12 = 4×x ⇒ 36 = 4x ⇒ x = 9.

Chapter 7: Post-Test (Multiple Choice, 40 Questions)

Q1. Change 11/5 to a mixed number.

- ○ $2\frac{1}{5}$
- ○ $1\frac{2}{5}$

- ○ $2\ ^{5}/_{11}$
- ○ $1\ ^{1}/_{5}$

Q2. Change $2\ ^{3}/_{4}$ to an improper fraction.

- ○ 11/4
- ○ 8/4
- ○ 9/4
- ○ 7/4

Q3. 4/9 + 2/9 = ?

- ○ 6/9
- ○ 8/18
- ○ 2/9
- ○ 1

Q4. 7/8 - 3/8 = ?

- ○ 4/8
- ○ 10/16
- ○ 4/16
- ○ 1/2

Q5. 2/3 + 1/6 = ?

- ○ 5/6
- ○ 3/9
- ○ 1/2
- ○ 7/9

Q6. 5/7 - 2/5 = ?

- ○ 11/35
- ○ 3/12
- ○ 1/2
- ○ 7/12

Q7. $3\frac{1}{4} + 2\frac{1}{2} = ?$

- ○ $5\frac{3}{4}$
- ○ 6
- ○ $5\frac{1}{2}$
- ○ $4\frac{3}{4}$

Q8. Estimate 7/10 + 5/12.

- ○ About 1
- ○ About 2
- ○ About 1 1/4
- ○ About 3/4

Q9. Multiply: 3 × 5/8

- ○ 15/8
- ○ 8/15
- ○ 5/24
- ○ 15/24

Q10. What is the reciprocal of 3/7?

- ○ 7/3
- ○ 3/7

- ○ 1/3
- ○ 1/7

Q11. Multiply: $1\frac{3}{4} \times 4/5$

- ○ $1\frac{2}{5}$
- ○ 2
- ○ 7/9
- ○ 1

Q12. Divide: 5/6 ÷ 3

- ○ 5/18
- ○ 5/2
- ○ 3/6
- ○ 1/2

Q13. Divide: 9 ÷ 3/4

- ○ 12
- ○ 9/4
- ○ 27/4
- ○ 6

Q14. Divide: 2/3 ÷ 5/8

- ○ 16/15
- ○ 10/24
- ○ 7/24
- ○ 3/8

Q15. Divide: 3 $^{1}/_{2}$ ÷ 1/3

- ○ 10 1/2
- ○ 7/6
- ○ 3 1/2
- ○ 1 1/6

Q16. What is the ratio of 10 to 15?

- ○ 2:3
- ○ 3:2
- ○ 5:7
- ○ 2:5

Q17. Solve: 3/7 = x/21

- ○ x = 9
- ○ x = 7
- ○ x = 8
- ○ x = 6

Q18. Complete the ratio table: 5:9 = 10:?

- ○ 18
- ○ 10
- ○ 9
- ○ 20

Q19. If 72 miles in 3 hours, what is the rate?

- ○ 24 miles/hour
- ○ 21 miles/hour

- ○ 18 miles/hour
- ○ 75 miles/hour

Q20. A recipe uses 2 cups of sugar for 8 muffins. How much sugar for 32 muffins?

- ○ 8 cups
- ○ 4 cups
- ○ 16 cups
- ○ 2 cups

Q21. What is a whole number?

- ○ A number without fractions or decimals.
- ○ A negative number.
- ○ A decimal number.
- ○ A fraction.

Q22. What is the place value of 8 in 582?

- ○ Tens
- ○ Ones
- ○ Hundreds
- ○ Thousands

Q23. What is the absolute value of -20?

- ○ 20
- ○ -20
- ○ 0
- ○ 10

Q24. What is the distance between 7 and -4?

- ○ 11
- ○ 3
- ○ 4
- ○ 1

Q25. Change 17/6 to a mixed number.

- ○ $2\frac{5}{6}$
- ○ $3\frac{2}{5}$
- ○ $2\frac{1}{6}$
- ○ $1\frac{3}{6}$

Q26. Change $5\frac{2}{3}$ to an improper fraction.

- ○ 17/3
- ○ 15/3
- ○ 7/3
- ○ 8/3

Q27. 5/6 + 1/6 = ?

- ○ 1
- ○ 6/12
- ○ 7/6
- ○ 1/6

Q28. 9/11 - 3/11 = ?

- ○ 6/11
- ○ 12/22

- ○ 3/11
- ○ 1/11

Q29. 2/7 + 3/4 = ?

- ○ 17/28
- ○ 5/11
- ○ 5/28
- ○ 1

Q30. 5/8 - 1/3 = ?

- ○ 7/24
- ○ 4/8
- ○ 1/2
- ○ 8/11

Q31. $1\ ^{2}/_{5} + 2\ ^{1}/_{10}$ = ?

- ○ $3\ ^{1}/_{2}$
- ○ 3
- ○ $2\ ^{7}/_{10}$
- ○ 2

Q32. Estimate 1/2 + 7/8.

- ○ About 1 1/2
- ○ About 1
- ○ About 2
- ○ About 1/2

Q33. Multiply: 6 × 1/3

- 2
- 6/3
- 1/2
- 3

Q34. What is the reciprocal of 2/5?

- 5/2
- 2/5
- 1/5
- 1/2

Q35. Multiply: $3\frac{2}{3} \times 1/2$

- $1\frac{5}{6}$
- 3/6
- 2/3
- 2

Q36. Divide: 3/4 ÷ 5

- 3/20
- 15/4
- 15/20
- 1/4

Q37. Divide: 12 ÷ 2/3

- 18
- 8

- ○ 6
- ○ 9

Q38. Divide: 5/8 ÷ 3/4

- ○ 5/6
- ○ 8/5
- ○ 15/32
- ○ 7/8

Q39. Divide: 4 $\frac{1}{2}$ ÷ 2/3

- ○ 6 $\frac{3}{4}$
- ○ 3
- ○ 7/6
- ○ 3 1/2

Grade Post-Test

Decimals, Fractions, and Percents: A Comprehensive Guide

Master place value, operations, and connections among decimals, fractions, and percents!

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Key Concepts Explained

1. **Decimal Place Value and Rounding**
   Each digit in a decimal has a value based on its position (tenths, hundredths, thousandths, etc). Rounding means making a decimal simpler while keeping its value close.
2. **Changing Fractions to Decimals**
   Divide the numerator (top number) by the denominator (bottom number).
3. **Changing Decimals to Fractions**
   Write the decimal as a fraction with a denominator as a power of 10, then simplify.

4. **Comparing and Ordering Decimals**
   Line up decimals by the decimal point and compare digits from left to right.
5. **Adding/Subtracting Decimals**
   Line up decimal points, add or subtract as whole numbers, and keep the decimal point in the answer.
6. **Adding/Subtracting Money**
   Treat money amounts as decimals (e.g., $3.25 + $2.10).
7. **Estimating Decimal Sums/Differences**
   Round numbers before adding or subtracting to make mental math easier.
8. **Multiplying Decimals**
   Multiply as whole numbers, then count total decimal places in the factors and place in the product.
9. **Multiplying Money**
   Multiply as decimals, keep two decimal places (cents).
10. **Estimating Decimal Products**
    Round decimals before multiplying for a quick estimate.
11. **Dividing Decimals**
    For divisor as a decimal, move the decimal to the right in both divisor and dividend until divisor is a whole number, then divide.
12. **Dividing Money**
    Divide as decimals, keep two decimal places (cents).
13. **Estimating Decimal Quotients**
    Round numbers before dividing for quick estimation.
14. **Understanding Percent**
    Percent means “per 100”. 35% = 35 out of 100 = 0.35.
15. **Percents and Fractions**
    Write percent as a fraction over 100 and simplify.
16. **Percents and Decimals**
    To convert percent to decimal, divide by 100 or move decimal left two places.
17. **Multiplying Percents and Fractions**
    Convert percent to a fraction or decimal first, then multiply.

Worked Examples

1. **Rounding 4.678 to the nearest hundredth:**
   Look at the thousandths place (8). Since it's 5 or more, round up: 4.68.

2. **Change 3/4 to a decimal:**
   3 ÷ 4 = 0.75
3. **Change 0.6 to a fraction:**
   0.6 = 6/10 = 3/5
4. **Compare: 0.56 vs 0.506**
   0.56 is greater because 5 tenths and 6 hundredths is more than 5 tenths and 0 hundredths.
5. **Add: 2.45 + 3.6**
   2.45
   +3.60
   =5.05
6. **Subtract: 8.9 - 2.34**
   8.90
   -2.34
   =6.56
7. **Add money: $3.25 + $1.75**
   = $5.00
8. **Estimate: 4.7 + 3.2**
   Round to 5 + 3 = 8
9. **Multiply: 0.3 × 0.2**
   3 × 2 = 6. There are 2 decimal places, so answer is 0.06
10. **Multiply money: $4.50 × 3**
    $4.50 × 3 = $13.50
11. **Estimate: 2.9 × 1.1**
    3 × 1 = 3
12. **Divide: 1.2 ÷ 3**
    1.2 ÷ 3 = 0.4
13. **Divide: 6 ÷ 0.2**
    6 ÷ 0.2 = 30
14. **Divide: 0.81 ÷ 0.09**
    Move decimals: 81 ÷ 9 = 9
15. **Divide money: $12.00 ÷ 4**
    $12.00 ÷ 4 = $3.00
16. **Estimate: 8.2 ÷ 2.1**
    8 ÷ 2 = 4
17. **35% as a decimal:**
    35 ÷ 100 = 0.35
18. **80% as a fraction:**
    80/100 = 4/5

19. **0.6 as a percent:**
    0.6 × 100 = 60%
20. **Find 25% of 80:**
    25% = 0.25; 0.25 × 80 = 20

Pre-Test: Multiple Choice (40 Questions)

1. Round 7.358 to the nearest tenth.

- ○ 7.4
- ○ 7.3
- ○ 7.36
- ○ 7.35

---

2. Round 2.685 to the nearest hundredth.

- ○ 2.69
- ○ 2.68
- ○ 2.7
- ○ 2.67

---

3. Change 1/2 to a decimal.

- ○ 0.25
- ○ 0.2
- ○ 0.5
- ○ 2

---

4. Change 0.75 to a fraction (in simplest form).

- ○ 3/4
- ○ 1/4
- ○ 7/10
- ○ 5/8

---

5. Which is greater: 0.48 or 0.484?

- ○ 0.48
- ○ 0.484

- ○ They are equal
- ○ Can't tell

---

6. Order from least to greatest: 0.45, 0.405, 0.54.

- ○ 0.405, 0.45, 0.54
- ○ 0.45, 0.405, 0.54
- ○ 0.54, 0.45, 0.405
- ○ 0.45, 0.54, 0.405

---

7. Add: 4.5 + 3.25

- ○ 7.65
- ○ 7.75
- ○ 8.75
- ○ 7.85

---

8. Subtract: 9.7 - 2.59

- ○ 7.11
- ○ 7.21
- ○ 7.41
- ○ 8.11

---

9. Add: $5.55 + $3.40

- ○ $8.95
- ○ $8.85
- ○ $9.05
- ○ $8.90

---

10. Subtract: $8.20 - $4.15

- ○ $4.15
- ○ $4.05
- ○ $3.95
- ○ $4.10

---

11. Estimate: 5.9 + 4.2

- ○ 9
- ○ 10
- ○ 11
- ○ 8

---

12. Estimate: 7.8 - 3.1

- ○ 5
- ○ 4.7
- ○ 4
- ○ 3.7

---

13. Multiply: 0.7 × 0.4

- ○ 0.28
- ○ 0.11
- ○ 0.21
- ○ 0.27

---

14. Multiply: $2.75 × 3

- ○ $8.25
- ○ $7.25
- ○ $7.75
- ○ $8.75

---

15. Estimate: 3.9 × 1.2

- ○ 5
- ○ 4
- ○ 3
- ○ 6

---

16. Divide: 6.4 ÷ 4

- ○ 1.6
- ○ 2.6
- ○ 1.8
- ○ 2.4

---

17. Divide: 9 ÷ 0.3

- ○ 3
- ○ 27
- ○ 30
- ○ 2.7

---

18. Divide: 0.36 ÷ 0.06

- ○ 0.6
- ○ 6
- ○ 60
- ○ 0.66

---

19. Divide: $15.00 ÷ 5

- ○ $3.00
- ○ $2.50
- ○ $2.00
- ○ $3.50

---

20. Estimate: 12.5 ÷ 4.1

- ○ 3
- ○ 4
- ○ 2
- ○ 5

---

21. What is 56% as a decimal?

- ○ 0.56
- ○ 5.6
- ○ 0.056
- ○ 56

---

22. Write 25% as a fraction.

- ○ 1/4
- ○ 1/5
- ○ 1/2

- ○ 1/10

23. Write 0.85 as a percent.

- ○ 0.85%
- ○ 85%
- ○ 8.5%
- ○ 850%

24. Find 10% of 250.

- ○ 25
- ○ 20
- ○ 2.5
- ○ 250

25. Round 0.764 to the nearest hundredth.

- ○ 0.76
- ○ 0.77
- ○ 0.75
- ○ 0.74

26. Change 2/5 to a decimal.

- ○ 0.2
- ○ 0.4
- ○ 0.5
- ○ 0.4

27. Change 0.2 to a fraction.

- ○ 1/5
- ○ 1/2
- ○ 2/5
- ○ 1/10

28. Which is greater: 0.607 or 0.67?

- ○ 0.607

- ○ 0.67
- ○ They are equal
- ○ Can't tell

---

29. Order from greatest to least: 0.8, 0.88, 0.08.

- ○ 0.88, 0.8, 0.08
- ○ 0.8, 0.88, 0.08
- ○ 0.08, 0.8, 0.88
- ○ 0.8, 0.08, 0.88

---

30. Add: 6.35 + 1.8

- ○ 7.95
- ○ 8.15
- ○ 8.05
- ○ 7.75

---

31. Subtract: 5.75 - 1.29

- ○ 4.46
- ○ 4.56
- ○ 4.36
- ○ 4.86

---

32. Add: $2.60 + $3.99

- ○ $6.59
- ○ $5.59
- ○ $6.69
- ○ $5.69

---

33. Subtract: $7.50 - $5.25

- ○ $2.15
- ○ $2.25
- ○ $2.35
- ○ $2.05

---

34. Estimate: 4.6 + 5.5

- ○ 10
- ○ 9
- ○ 12
- ○ 8

---

35. Estimate: 10.2 - 6.8

- ○ 4
- ○ 3
- ○ 2
- ○ 5

---

36. Multiply: 0.5 × 0.8

- ○ 0.4
- ○ 0.08
- ○ 0.13
- ○ 0.45

---

37. Multiply: $3.60 × 2

- ○ $6.20
- ○ $6.00
- ○ $7.20
- ○ $5.20

---

38. Estimate: 6.9 × 2.2

- ○ 15
- ○ 12
- ○ 14
- ○ 10

---

39. Divide: 5.6 ÷ 7

- ○ 0.8
- ○ 0.7
- ○ 0.6

- ○ 0.9

40. Divide: 4 ÷ 0.2

- ○ 20
- ○ 2
- ○ 0.2
- ○ 8

Submit Pre-Test

Questions & Answers (Based on Your Pre-Test)

After you complete the pre-test, any questions you got incorrect will appear here with explanations.

Post-Test: Multiple Choice (40 Questions)

1. Round 5.849 to the nearest tenth.

- ○ 5.8
- ○ 5.9
- ○ 5.85
- ○ 6.0

2. Round 3.472 to the nearest hundredth.

- ○ 3.47
- ○ 3.48
- ○ 3.46
- ○ 3.49

3. Change 5/8 to a decimal.

- ○ 0.625
- ○ 0.58
- ○ 0.8

- ○ 0.75

---

4. Change 0.4 to a fraction.

- ○ 2/5
- ○ 4/10
- ○ 1/4
- ○ 3/5

---

5. Which is greater: 0.72 or 0.702?

- ○ 0.72
- ○ 0.702
- ○ They are equal
- ○ Can't tell

---

6. Order from least to greatest: 0.19, 0.109, 0.91.

- ○ 0.109, 0.19, 0.91
- ○ 0.19, 0.109, 0.91
- ○ 0.91, 0.19, 0.109
- ○ 0.109, 0.91, 0.19

---

7. Add: 3.9 + 2.75

- ○ 6.65
- ○ 6.55
- ○ 5.65
- ○ 5.75

---

8. Subtract: 7.1 - 1.68

- ○ 5.42
- ○ 6.42
- ○ 5.32
- ○ 4.42

---

9. Add: $8.45 + $2.35

- ○ $10.80

- ○ $10.70
- ○ $11.80
- ○ $9.80

---

10. Subtract: $6.60 - $3.20

- ○ $3.40
- ○ $4.40
- ○ $4.50
- ○ $3.50

---

11. Estimate: 2.8 + 5.1

- ○ 8
- ○ 7
- ○ 6
- ○ 9

---

12. Estimate: 8.5 - 3.7

- ○ 5
- ○ 4.8
- ○ 6
- ○ 4

---

13. Multiply: 0.9 × 0.3

- ○ 0.27
- ○ 0.21
- ○ 0.18
- ○ 0.39

---

14. Multiply: $5.25 × 2

- ○ $10.50
- ○ $10.25
- ○ $11.50
- ○ $9.50

---

15. Estimate: 4.4 × 1.7

- ○ 8
- ○ 7
- ○ 6
- ○ 9

---

16. Divide: 2.7 ÷ 3

- ○ 0.9
- ○ 0.8
- ○ 1.2
- ○ 1.8

---

17. Divide: 8 ÷ 0.4

- ○ 20
- ○ 2
- ○ 0.2
- ○ 8

---

18. Divide: 0.54 ÷ 0.06

- ○ 0.9
- ○ 9
- ○ 8
- ○ 10

---

19. Divide: $20.00 ÷ 8

- ○ $2.50
- ○ $2.25
- ○ $2.00
- ○ $3.00

---

20. Estimate: 13.1 ÷ 3.2

- ○ 4
- ○ 3
- ○ 5

- ○ 6

21. What is 23% as a decimal?

- ○ 0.23
- ○ 2.3
- ○ 0.023
- ○ 23

22. Write 40% as a fraction.

- ○ 2/5
- ○ 1/2
- ○ 3/5
- ○ 4/5

23. Write 0.72 as a percent.

- ○ 7.2%
- ○ 72%
- ○ 0.72%
- ○ 720%

24. Find 30% of 150.

- ○ 45
- ○ 50
- ○ 30
- ○ 35

25. Round 0.987 to the nearest hundredth.

- ○ 0.99
- ○ 0.98
- ○ 0.97
- ○ 1.0

26. Change 3/8 to a decimal.

- ○ 0.375

- ○ 0.38
- ○ 0.32
- ○ 0.48

---

27. Change 0.55 to a fraction.

- ○ 11/20
- ○ 5/9
- ○ 1/2
- ○ 5/11

---

28. Which is greater: 0.805 or 0.85?

- ○ 0.805
- ○ 0.85
- ○ They are equal
- ○ Can't tell

---

29. Order from greatest to least: 0.5, 0.15, 0.51.

- ○ 0.51, 0.5, 0.15
- ○ 0.5, 0.51, 0.15
- ○ 0.51, 0.15, 0.5
- ○ 0.5, 0.15, 0.51

---

30. Add: 7.65 + 1.9

- ○ 9.55
- ○ 9.45
- ○ 9.65
- ○ 8.65

---

31. Subtract: 8.25 - 1.48

- ○ 6.77
- ○ 7.77
- ○ 6.87
- ○ 7.87

---

32. Add: $6.30 + $0.95

- ○ $7.25
- ○ $7.35
- ○ $7.20
- ○ $6.35

---

33. Subtract: $4.80 - $2.35

- ○ $2.45
- ○ $2.55
- ○ $2.35
- ○ $2.65

---

34. Estimate: 3.6 + 6.3

- ○ 10
- ○ 9
- ○ 8
- ○ 11

---

35. Estimate: 9.1 - 5.9

- ○ 3
- ○ 4
- ○ 2
- ○ 5

---

36. Multiply: 0.6 × 0.9

- ○ 0.54
- ○ 0.09
- ○ 0.63
- ○ 0.45

---

37. Multiply: $4.25 × 4

- ○ $17.00
- ○ $16.00
- ○ $18.00

- ○ $14.00

38. Estimate: 2.2 × 5.1

- ○ 11
- ○ 10
- ○ 12
- ○ 13

39. Divide: 4.8 ÷ 8

- ○ 0.6
- ○ 0.8
- ○ 0.7
- ○ 1.6

40. Divide: 5 ÷ 0.5

- ○ 10
- ○ 2.5
- ○ 0.1
- ○ 1

Submit Post-Test