Math at Home for Families



TEST PREP

4th Grade

Strategies for Multiplication/Division Facts Parent Guide

Grade Level: 4

Benchmark: MA.4.NSO.2.1
Recall multiplication facts with factors up to 12 and related division facts with automaticity.

Basic Math Facts:

When students can quickly and easily remember their basic math facts—without having to count on their fingers or pause to figure them out—it makes a big difference in their success with math. If a child has to spend a lot of mental energy thinking about simple addition, subtraction, multiplication, or division facts, it becomes much harder to focus on solving bigger problems like multi-digit multiplication or long division. Knowing math facts automatically is like being able to read common words smoothly—it helps everything else feel easier. When math facts come quickly, students can concentrate on understanding the steps, avoiding mistakes, and building confidence. Strong fact fluency now creates a solid foundation for future math success.

Fourth graders are expected to know their multiplication facts (12 x 12) and related division facts.

Fact	Key Strategy	How It Helps	Example
0s	Zero Property	Any number × 0 = 0	7 × 0 = 0
1s	Identity Property	Any number × 1 = itself	8 × 1 = 8
2s	Doubles	Multiply by 2 = double the number	2 × 6 = 12
3s	Skip Count by 3	Count by 3s	3 × 4 → 3, 6, 9, 12
4s	Double the Double	Double twice	4 × 5 → double 5 (10), double again (20)
5s	Count by 5s Pattern	Ends in 0 or 5	5 × 7 = 35
6s	Break Apart	Use 5s fact + 1 group	6 × 7 → (5 × 7) + 7
7s	Use Known Fact	Build from 5s or doubles	7 × 8 → (5 × 8) + (2 × 8)
8s	Double ×3 (2×2×2)	Double three times	8 × 4 → 4 → 8 → 16 → 32
9s	10s Minus One Group	Multiply by 10, subtract one group	9 × 6 → (10 × 6) − 6
10s	Add a Zero	Multiply by 10	10 × 9 = 90
11s	Pattern (1-digit)	Double digits for 1–9	11 × 7 = 77

Unit 2
Fluency Practice

Set 1: Multiplication Facts

Multiply.

1. $3 \times 6 =$ _____
2. $9 \times 10 =$ _____
3. $5 \times 2 =$ _____
4. $7 \times 0 =$ _____
5. $4 \times 1 =$ _____
6. $11 \times 8 =$ _____
7. $8 \times 5 =$ _____
8. $12 \times 4 =$ _____
9. $3 \times 9 =$ _____
10. $9 \times 8 =$ _____
11. $6 \times 8 =$ _____
12. $11 \times 11 =$ _____
13. $7 \times 6 =$ _____
14. $7 \times 4 =$ _____
15. $12 \times 5 =$ _____
16. $2 \times 6 =$ _____
17. $4 \times 4 =$ _____
18. $1 \times 10 =$ _____
19. $9 \times 6 =$ _____
20. $5 \times 7 =$ _____
21. $12 \times 3 =$ _____

Set 2: Division Facts

Divide.

1. $21 \div 3 =$ _____
2. $55 \div 5 =$ _____
3. $49 \div 7 =$ _____
4. $48 \div 4 =$ _____
5. $0 \div 10 =$ _____
6. $63 \div 9 =$ _____
7. $32 \div 8 =$ _____
8. $120 \div 12 =$ _____
9. $81 \div 9 =$ _____
10. $15 \div 5 =$ _____
11. $30 \div 5 =$ _____
12. $12 \div 12 =$ _____
13. $24 \div 8 =$ _____
14. $54 \div 6 =$ _____
15. $36 \div 9 =$ _____
16. $80 \div 10 =$ _____
17. $7 \div 1 =$ _____
18. $96 \div 12 =$ _____
19. $24 \div 4 =$ _____
20. $45 \div 5 =$ _____
21. $12 \div 6 =$ _____

Unit 2
Fluency Practice

Answer Key

Set 1: Multiplication Facts

Multiply.

1. $3 \times 6 =$ 18
2. $9 \times 10 =$ 90
3. $5 \times 2 =$ 10
4. $7 \times 0 =$ 0
5. $4 \times 1 =$ 4
6. $11 \times 8 =$ 88
7. $8 \times 5 =$ 40
8. $12 \times 4 =$ 48
9. $3 \times 9 =$ 27
10. $9 \times 8 =$ 72
11. $6 \times 8 =$ 48
12. $11 \times 11 =$ 121
13. $7 \times 6 =$ 42
14. $7 \times 4 =$ 28
15. $12 \times 5 =$ 60
16. $2 \times 6 =$ 12
17. $4 \times 4 =$ 16
18. $1 \times 10 =$ 10
19. $9 \times 6 =$ 54
20. $5 \times 7 =$ 35
21. $12 \times 3 =$ 36

Set 2: Division Facts

Divide.

1. $21 \div 3 =$ 7
2. $55 \div 5 =$ 11
3. $49 \div 7 =$ 7
4. $48 \div 4 =$ 12
5. $0 \div 10 =$ 0
6. $63 \div 9 =$ 7
7. $32 \div 8 =$ 4
8. $120 \div 12 =$ 10
9. $81 \div 9 =$ 9
10. $15 \div 5 =$ 3
11. $30 \div 5 =$ 6
12. $12 \div 12 =$ 1
13. $24 \div 8 =$ 3
14. $54 \div 6 =$ 9
15. $36 \div 9 =$ 4
16. $80 \div 10 =$ 8
17. $7 \div 1 =$ 7
18. $96 \div 12 =$ 8
19. $24 \div 4 =$ 6
20. $45 \div 5 =$ 9
21. $12 \div 6 =$ 2

Strategies for Multi-Digit Multiplication Parent Guide

Grade Level: 4

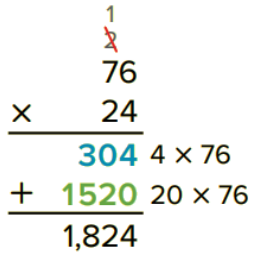
Benchmark: MA.4.NSO.2.2
Multiply two whole numbers, up to three digits by up to two digits, with procedural reliability.

Benchmark Clarifications:
Clarification 1: Instruction focuses on helping a student choose a method they can use reliably.
Clarification 2: Instruction includes the use of models or equations based on place value and the distributive property.

Multi-Digit Multiplication:
The way your child is learning multi-digit multiplication, may look very different from the way many of us were taught. That's because today's learning focuses not just on getting the right answer, but on understanding why the math works. Here are two common strategies students use:

Partial Products: 76 x 24

1. Multiply the ones place.
   4×76
2. Multiply the tens place.
   Place a 0 in the ones place.
   20×76
3. Add the products.



Area Model: 356 x 47
Decompose 356 and 47 by place value. Multiply the value at the top of each column by the value at the start of each row. Add up the partial products.

$356 \times 47 = ?$

	300	+ 50	+ 6
40	$300 \times 40 =$ 12,000	$50 \times 40 =$ 2,000	$6 \times 40 =$ 240
+ 7	$300 \times 7 =$ 2,100	$50 \times 7 =$ 350	$6 \times 7 =$ 42

1

1	2,	0	0	0
	2,	1	0	0
	2,	0	0	0
		3	5	0
		2	4	0
+			4	2
1	6,	7	3	2

*Tip: Students are able to use grid paper on FAST. Practice lining up digits by place value when adding, subtracting, or multiplying.

Set 7: Multiply a Three-Digit Number by a One-Digit Number

Multiply.

1. 635×5
2. 886×4
3. 924×6
4. 552×2
5. 724×4
6. 184×9
7. 488×7
8. 307×8

Set 8: Multiply Two Two-Digit Numbers

Multiply.

1. 71×42
2. 27×66
3. 82×34
4. 35×18
5. 37×11
6. 89×61
7. 19×32
8. 58×71

Set 9: Multiply a Three-Digit Number by a Two-Digit Number

Multiply.

1. 737×52
2. 690×76
3. 902×84
4. 579×60
5. 563×29
6. 971×31
7. 641×49
8. 844×13

Answer Key

Set 7: Multiply a Three-Digit Number by a One-Digit Number

Multiply.

1. 635 × 5 = 3,175
2. 886 × 4 = 3,544
3. 924 × 6 = 5,544
4. 552 × 2 = 1,104
5. 724 × 4 = 2,896
6. 184 × 9 = 1,656
7. 488 × 7 = 3,416
8. 307 × 8 = 2,456

Set 8: Multiply Two Two-Digit Numbers

Multiply.

1. 71 × 42 = 2,982
2. 27 × 66 = 1,782
3. 82 × 34 = 2,788
4. 35 × 18 = 630
5. 37 × 11 = 407
6. 89 × 61 = 5,429
7. 19 × 32 = 608
8. 58 × 71 = 4,118

Set 9: Multiply a Three-Digit Number by a Two-Digit Number

Multiply.

1. 737 × 52 = 38,324
2. 690 × 76 = 52,440
3. 902 × 84 = 75,768
4. 579 × 60 = 34,740
5. 563 × 29 = 16,327
6. 971 × 31 = 30,101
7. 641 × 49 = 31,409
8. 844 × 13 = 10,972

Strategies for Division
Parent Guide

Grade Level: 4

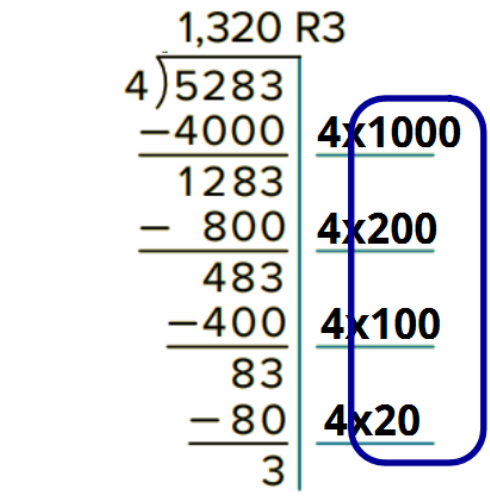
Benchmark: MA.4.NSO.2.4
Divide a whole number up to four digits by a one-digit whole number with procedural reliability. Represent remainders as fractional parts of the divisor.

Benchmark Clarifications:
Clarification 1: Instruction focuses on helping a student choose a method they can use reliably.
Clarification 2: Instruction includes the use of models based on place value, properties of operations or the relationship between multiplication and division.

Division:
When students begin learning division, the goal isn't just to "do the steps" — it's to truly understand what division means. Today's instruction builds that understanding first, then moves toward efficiency. The **partial quotients strategy** helps students make sense of the division.

Partial Quotients:
This method breaks the division into manageable chunks using multiples students know. When the partial quotients are added up, the value is the quotient. There are many ways to solve a problem using this strategy.

$5{,}283 \div 4 = ?$



Add the partial quotients.

1,000
200
100
+ 20
1,320

$5{,}283 \div 4 = 1{,}320$ R3

$1{,}320\frac{3}{4}$

Set 10: Divide a Three-Digit Number by a One-Digit Number

Divide. Represent remainders as fractional parts of the divisor.

1. 683 ÷ 7 = _____
2. 119 ÷ 2 = _____
3. 705 ÷ 5 = _____
4. 992 ÷ 5 = _____
5. 495 ÷ 9 = _____
6. 830 ÷ 4 = _____
7. 517 ÷ 6 = _____
8. 292 ÷ 3 = _____
9. 508 ÷ 4 = _____

Set 11: Divide a Four-Digit Number by a One-Digit Number

Divide. Represent remainders as fractional parts of the divisor.

1. 2,528 ÷ 4 = _____
2. 4,789 ÷ 7 = _____
3. 9,226 ÷ 8 = _____
4. 6,801 ÷ 5 = _____
5. 7,090 ÷ 4 = _____
6. 3,312 ÷ 6 = _____
7. 1,703 ÷ 9 = _____
8. 5,481 ÷ 7 = _____
9. 2,541 ÷ 6 = _____

Answer Key

Set 10: Divide a Three-Digit Number by a One-Digit Number

Divide. Represent remainders as fractional parts of the divisor.

1. 683 ÷ 7 = $97\frac{4}{7}$
2. 119 ÷ 2 = $59\frac{1}{2}$
3. 705 ÷ 5 = 141
4. 992 ÷ 5 = $198\frac{2}{5}$
5. 495 ÷ 9 = 55
6. 830 ÷ 4 = $207\frac{2}{4}$
7. 517 ÷ 6 = $86\frac{1}{6}$
8. 292 ÷ 3 = $97\frac{1}{3}$
9. 508 ÷ 4 = 127

Set 11: Divide a Four-Digit Number by a One-Digit Number

Divide. Represent remainders as fractional parts of the divisor.

1. 2,528 ÷ 4 = 632
2. 4,789 ÷ 7 = $684\frac{1}{7}$
3. 9,226 ÷ 8 = $1{,}153\frac{2}{8}$
4. 6,801 ÷ 5 = $1{,}360\frac{1}{5}$
5. 7,090 ÷ 4 = $1{,}772\frac{2}{4}$
6. 3,312 ÷ 6 = 552
7. 1,703 ÷ 9 = $189\frac{2}{9}$
8. 5,481 ÷ 7 = 783
9. 2,541 ÷ 6 = $423\frac{3}{6}$

Strategies for Comparing Decimals Parent Guide

Grade Level: 4

Benchmark: MA.4.NSO.1.5
Plot, order and compare decimals up to the hundredths.

Example: The numbers 3.2; 3.24 and 3.12 can be arranged in ascending order as 3.12; 3.2 and 3.24.

Benchmark Clarifications:
Clarification 1: When comparing numbers, instruction includes using an appropriately scaled number line and using place values of the ones, tenths and hundredths digits.
Clarification 2: Within the benchmark, the expectation is to explain the reasoning for the comparison and use symbols (<, > or =).
Clarification 3: Scaled number lines must be provided and can be a representation of any range of numbers.

Comparing Decimals:

When students begin comparing decimals, the key idea is understanding place value. A strong foundation in place value helps children see that decimals follow the same pattern as whole numbers—just extended to the right of the decimal point.

Lining Decimal Numbers up by Place Value:
Consider the decimals 0.75, 0.8, and 0.78.

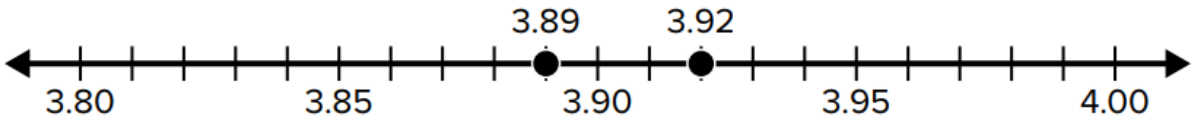
8 tenths equals 80 hundredths

Since 8 tenths is greater than 7 tenths, 0.8 has the greatest value.

Ones	.	Tenths	Hundredths
0	.	7	5
0	.	8	0
0	.	7	8

Using a Number Line:

How can you compare 3.92 and 3.89?



$3.92 > 3.89$

3.92 is greater than 3.89 because 3.92 has 9 tenths, which is greater than 8 tenths.

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Place Value Chart (Ones, Tenths, Hundredths)

					ones
•	•	•	•	•	
					tenths
					hundredths

					ones
•	•	•	•	•	
					tenths
					hundredths

					ones
•	•	•	•	•	
					tenths
					hundredths

					ones
•	•	•	•	•	
					tenths
					hundredths

					ones
•	•	•	•	•	
					tenths
					hundredths

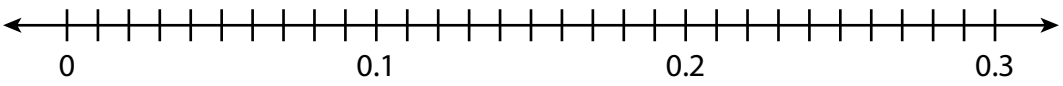
					ones
•	•	•	•	•	
					tenths
					hundredths

Unit 3
Fluency Practice

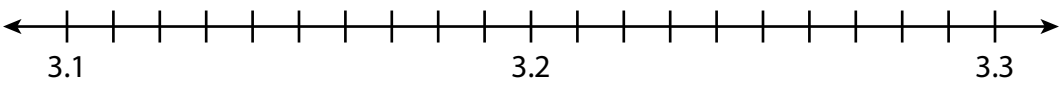
Set 1: Plot Decimals

Plot and label the numbers on the number line.

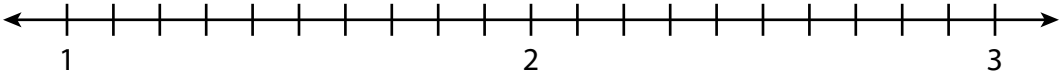
1 0.01, 0.25, 0.10



2 3.16, 3.29, 3.23



3 2.3, 1.8, 2.15



Set 2: Compare Decimals

Write >, <, or = to compare the numbers.

1 58.9 ◯ 58.90

2 0.38 ◯ 0.4

3 8.91 ◯ 8.75

4 7.02 ◯ 7.40

5 12.4 ◯ 1.24

6 5.17 ◯ 5.41

Set 3: Order Decimals

Order the numbers from least to greatest.

1 8.34, 8.19, 8.9, 8.28

_____

2 6.5, 6.08, 5.00, 4.99

_____

3 0.03, 0.3, 0.33

_____

4 11.8, 1.88, 1.18

_____

5 4.07, 4.52, 4.7, 4.1

_____

6 2.97, 2.31, 2.59

_____

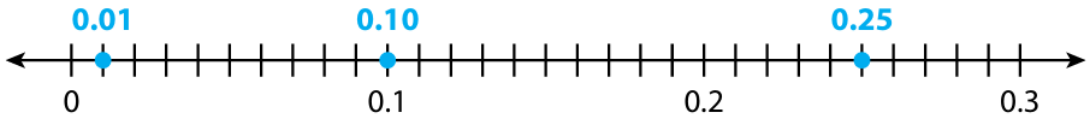
Unit 3
Fluency Practice

Answer Key

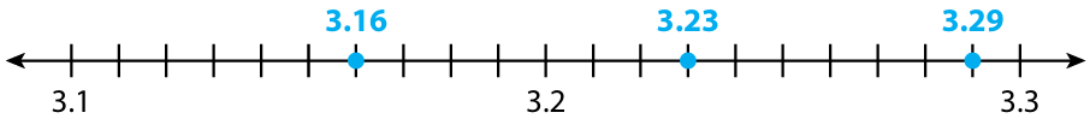
Set 1: Plot Decimals

Plot and label the numbers on the number line.

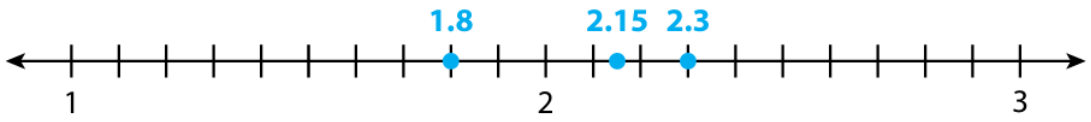
1 0.01, 0.25, 0.10



2 3.16, 3.29, 3.23



3 2.3, 1.8, 2.15



Set 2: Compare Decimals

Write >, <, or = to compare the numbers.

1 58.9 (=) 58.90

2 0.38 (<) 0.4

3 8.91 (>) 8.75

4 7.02 (<) 7.40

5 12.4 (>) 1.24

6 5.17 (<) 5.41

Set 3: Order Decimals

Order the numbers from least to greatest.

1 8.34, 8.19, 8.9, 8.28

8.19, 8.28, 8.34, 8.9

2 6.5, 6.08, 5.00, 4.99

4.99, 5.00, 6.08, 6.5

3 0.03, 0.3, 0.33

0.03, 0.3, 0.33

4 11.8, 1.88, 1.18

1.18, 1.88, 11.8

5 4.07, 4.52, 4.7, 4.1

4.07, 4.1, 4.52, 4.7

6 2.97, 2.31, 2.59

2.31, 2.59, 2.97

Strategies for Comparing Fractions Parent Guide

Grade Level: 4

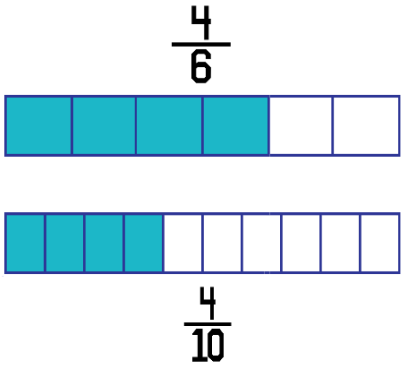
Benchmark: MA.4.FR.1.4

Plot, order and compare fractions, including mixed numbers and fractions greater than one, with different numerators and different denominators.

Strategies to Compare Fractions:

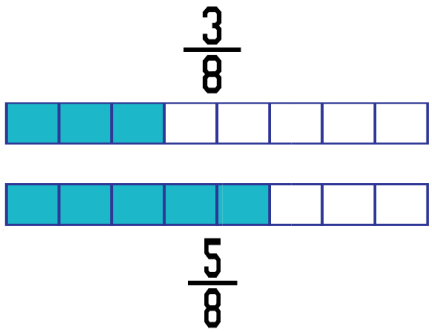
Common Numerator:
If two fractions have the same number of pieces, the fraction with the larger denominator (smaller-sized pieces) is smaller.

$$\frac{4}{10} < \frac{4}{6}$$



Common Denominator:
If two fractions have the same sized-pieces, the fraction with the larger numerator (more pieces) is bigger.

$$\frac{3}{8} < \frac{5}{8}$$



Compare to 1/2:

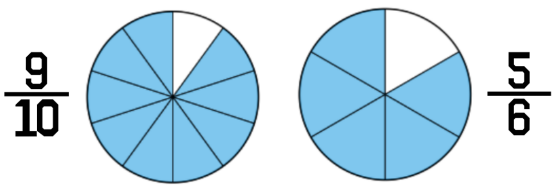
Is it greater or less than 1/2?

Almost 1:

What sized-piece is missing from the whole?

A tenth-sized piece is smaller than a sixth-sized piece.

$$\frac{9}{10} < \frac{5}{6}$$



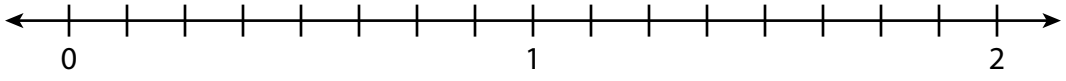
Set 4: Plot Fractions

Plot and label the numbers on the number line.

1 $1\frac{1}{2}, \frac{5}{6}, \frac{1}{3}$



2 $\frac{3}{4}, \frac{1}{2}, 1\frac{5}{8}$



Set 5: Compare Fractions

Write >, <, or = to compare the numbers.

1 $1\frac{5}{6} \bigcirc 1\frac{4}{5}$

2 $\frac{7}{12} \bigcirc \frac{7}{10}$

3 $1\frac{1}{3} \bigcirc \frac{16}{12}$

4 $\frac{15}{8} \bigcirc \frac{16}{10}$

5 $1\frac{9}{16} \bigcirc \frac{9}{4}$

6 $\frac{3}{8} \bigcirc \frac{7}{12}$

Set 6: Order Fractions

Order the numbers from least to greatest.

1 $2\frac{5}{8}, 2\frac{2}{5}, \frac{8}{3}$

_____

2 $3\frac{3}{16}, 3\frac{16}{100}, 3\frac{1}{4}$

_____

3 $\frac{5}{12}, \frac{4}{9}, \frac{3}{8}, \frac{2}{5}$

_____

4 $\frac{7}{12}, \frac{4}{12}, \frac{4}{5}, \frac{4}{6}$

_____

5 $\frac{9}{5}, \frac{7}{4}, 1\frac{2}{3}$

_____

6 $\frac{5}{16}, \frac{7}{12}, \frac{2}{5}, \frac{1}{6}$

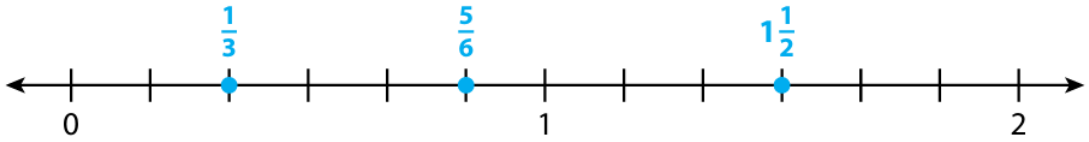
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Answer Key

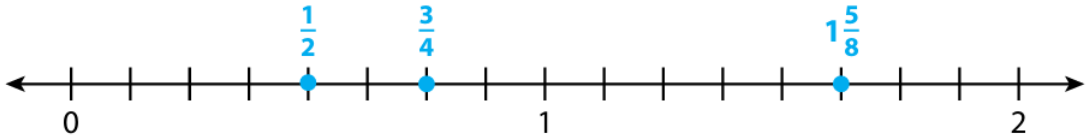
Set 4: Plot Fractions

Plot and label the numbers on the number line.

1 $1\frac{1}{2}, \frac{5}{6}, \frac{1}{3}$



2 $\frac{3}{4}, \frac{1}{2}, 1\frac{5}{8}$



Set 5: Compare Fractions

Write >, <, or = to compare the numbers.

1 $1\frac{5}{6} > 1\frac{4}{5}$

2 $\frac{7}{12} < \frac{7}{10}$

3 $1\frac{1}{3} = \frac{16}{12}$

4 $\frac{15}{8} > \frac{16}{10}$

5 $1\frac{9}{16} < \frac{9}{4}$

6 $\frac{3}{8} < \frac{7}{12}$

Set 6: Order Fractions

Order the numbers from least to greatest.

1 $2\frac{5}{8}, 2\frac{2}{5}, \frac{8}{3}$

$2\frac{2}{5}, 2\frac{5}{8}, \frac{8}{3}$

2 $3\frac{3}{16}, 3\frac{16}{100}, 3\frac{1}{4}$

$3\frac{16}{100}, 3\frac{3}{16}, 3\frac{1}{4}$

3 $\frac{5}{12}, \frac{4}{9}, \frac{3}{8}, \frac{2}{5}$

$\frac{3}{8}, \frac{2}{5}, \frac{5}{12}, \frac{4}{9}$

4 $\frac{7}{12}, \frac{4}{12}, \frac{4}{5}, \frac{4}{6}$

$\frac{4}{12}, \frac{7}{12}, \frac{4}{6}, \frac{4}{5}$

5 $\frac{9}{5}, \frac{7}{4}, 1\frac{2}{3}$

$1\frac{2}{3}, \frac{7}{4}, \frac{9}{5}$

6 $\frac{5}{16}, \frac{7}{12}, \frac{2}{5}, \frac{1}{6}$

$\frac{1}{6}, \frac{5}{16}, \frac{2}{5}, \frac{7}{12}$