



RADIANT HEIGHTS ACADEMY

From Radiant Minds to Great Heights

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Student Name: _____

MATHEMATICS BOOKLET

Level 5-6 Term 2 Week 6

THIS WEEK'S FOCUS

- ✓ Multiplying Fractions
- ✓ Dividing Fractions

✦ MULTIPLYING & DIVIDING FRACTIONS ✦

1. MULTIPLYING FRACTIONS

Rule:

- Multiply the numerators.
- Multiply the denominators.
- Simplify if possible.

$$\frac{2}{4} \times \frac{3}{7}$$

1 Multiply numerators

$$2 \times 3 = 6$$

2 Multiply denominators

$$4 \times 7 = 28$$

3 Simplify

$$\frac{6}{28} = \frac{3}{14}$$

Answer: $\frac{3}{14}$

2. CROSS-SIMPLIFICATION

Cross-simplification means simplifying numbers diagonally before multiplying.

$$\frac{2}{9} \times \frac{3}{8}$$

Original:

$$\frac{2}{9} \times \frac{3}{8}$$

Cross-simplify:

$$\frac{1}{9} \times \frac{3}{4}$$

Becomes:

$$\frac{1}{3} \times \frac{1}{4}$$

Multiply: $1 \times 1 = 1$
 $3 \times 4 = 12$

Answer: $\frac{1}{12}$

3. MULTIPLYING MIXED NUMBERS

Step 1: Convert mixed number to improper fraction.

$$1\frac{1}{2} \times \frac{4}{9}$$

$$1\frac{1}{2} = \frac{3}{2}$$

Now: $\frac{3}{2} \times \frac{4}{9}$

Step 2: Cross-simplify.

$$\frac{1}{3} \times \frac{2}{9}$$

Becomes: $\frac{1}{1} \times \frac{2}{3}$

Step 3: Multiply.

$$\frac{1}{1} \times \frac{2}{3}$$

$$1 \times 2 = 2$$

$$1 \times 3 = 3$$

Answer: $\frac{2}{3}$

4. DIVIDING FRACTIONS

Rule:

- 1 Keep the first fraction.
- 2 Change the division sign to multiplication.
- 3 Flip the second fraction.
- 4 Multiply.
- 5 Simplify if needed.

$$\frac{2}{5} \div \frac{3}{4}$$

1 Keep

$$\frac{2}{5}$$

2 Change

$$\frac{2}{5} \times$$

3 Flip

$$\frac{2}{5} \times \frac{4}{3}$$

4 Multiply:

$$2 \times 4 = 8$$

$$5 \times 3 = 15$$

Answer: $\frac{8}{15}$

5. DIVIDING FRACTIONS WITH CROSS-SIMPLIFICATION

Example:

$$\frac{4}{7} \div \frac{2}{9}$$

1 Keep, change, flip

$$\frac{4}{7} \times \frac{9}{2}$$

2 Cross-simplify:

$$\frac{4}{7} \times \frac{9}{2}$$

Becomes:

$$\frac{2}{7} \times \frac{9}{1}$$

3 Multiply:

$$2 \times 9 = 18$$

$$7 \times 1 = 7$$

Answer: $\frac{18}{7}$
or $2\frac{4}{7}$

QUICK SUMMARY



MULTIPLYING FRACTIONS

- Multiply top \times top
- Multiply bottom \times bottom
- Simplify



DIVIDING FRACTIONS

- Keep
- Change
- Flip
- Multiply
- Simplify



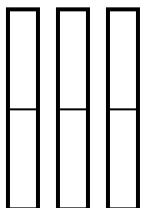
CROSS-SIMPLIFICATION

- Simplify diagonally before multiplying
- Makes calculations easier!

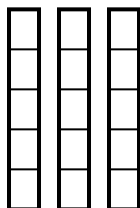


Use the visual models to solve.

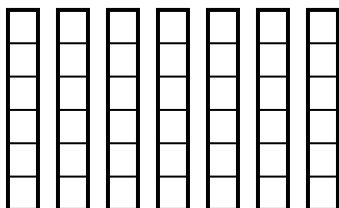
1) $\frac{1}{2} \times 3 =$



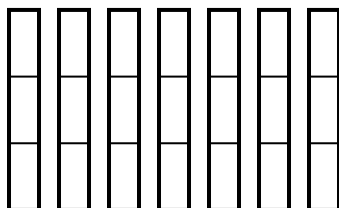
2) $\frac{3}{5} \times 3 =$



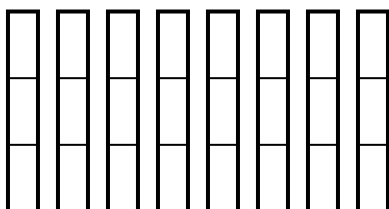
3) $\frac{5}{6} \times 7 =$



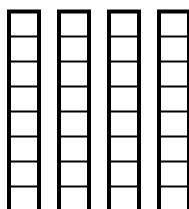
4) $\frac{2}{3} \times 7 =$



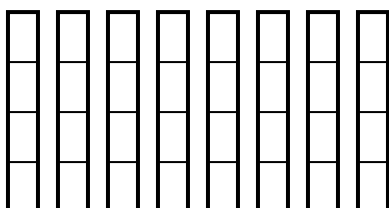
5) $\frac{2}{3} \times 8 =$



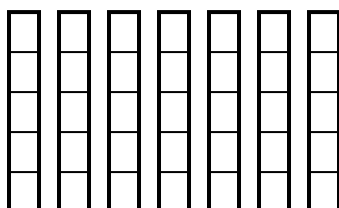
6) $\frac{7}{8} \times 4 =$



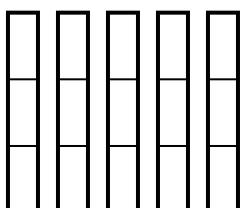
7) $\frac{1}{4} \times 8 =$



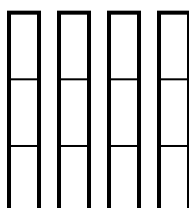
8) $\frac{3}{5} \times 7 =$



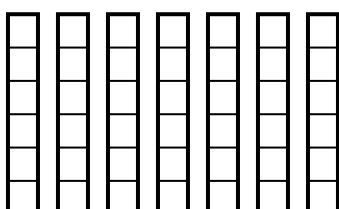
9) $\frac{2}{3} \times 5 =$



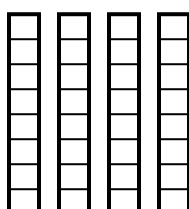
10) $\frac{2}{3} \times 4 =$



11) $\frac{2}{6} \times 7 =$



12) $\frac{6}{8} \times 4 =$



Answers

1. _____

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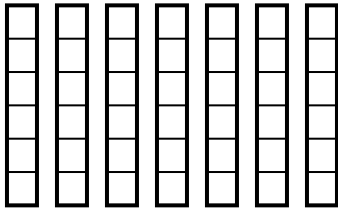
11. _____

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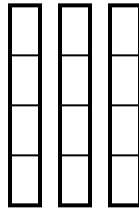


Use the visual models to solve.

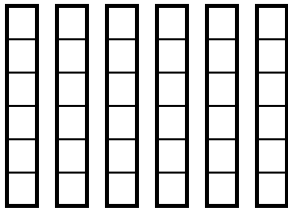
1) $\frac{4}{6} \times 7 =$



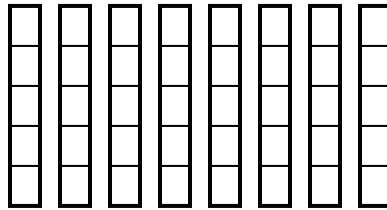
2) $\frac{1}{4} \times 3 =$



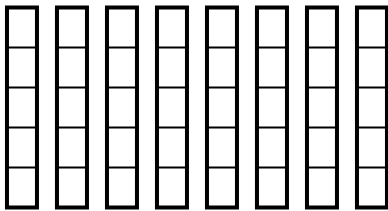
3) $\frac{4}{6} \times 6 =$



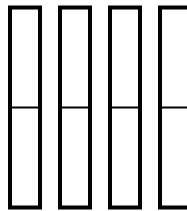
4) $\frac{1}{5} \times 8 =$



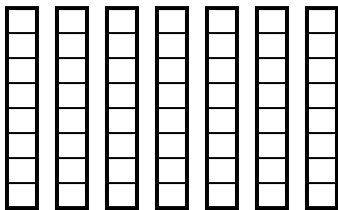
5) $\frac{4}{5} \times 8 =$



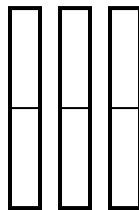
6) $\frac{1}{2} \times 4 =$



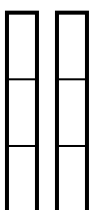
7) $\frac{1}{8} \times 7 =$



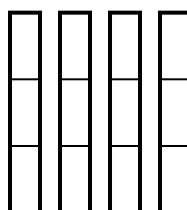
8) $\frac{1}{2} \times 3 =$



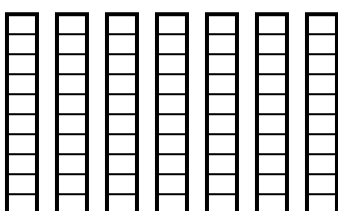
9) $\frac{1}{3} \times 2 =$



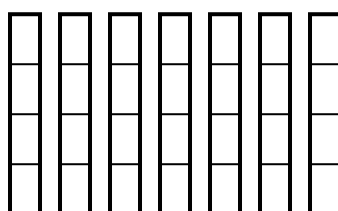
10) $\frac{2}{3} \times 4 =$



11) $\frac{3}{10} \times 7 =$



12) $\frac{2}{4} \times 7 =$



Answers

1. _____

2. _____

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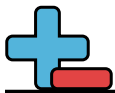
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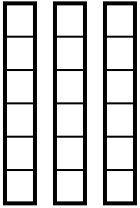
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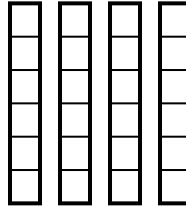


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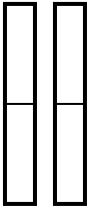
1) $\frac{5}{6} \times 3 =$



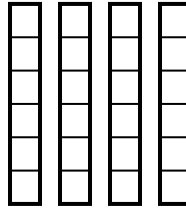
2) $\frac{5}{6} \times 4 =$



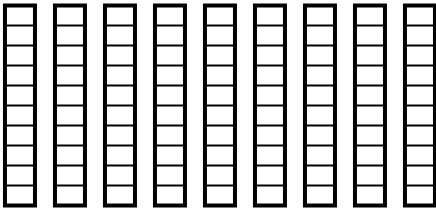
3) $\frac{1}{2} \times 2 =$



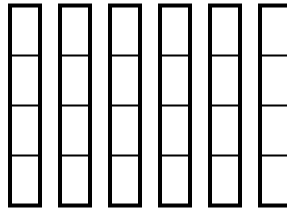
4) $\frac{4}{6} \times 4 =$



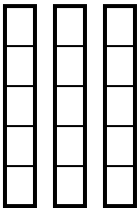
5) $\frac{7}{10} \times 9 =$



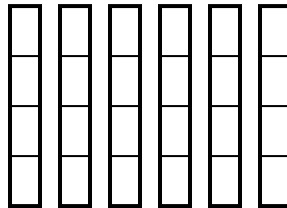
6) $\frac{2}{4} \times 6 =$



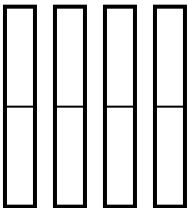
7) $\frac{2}{5} \times 3 =$



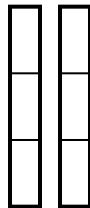
8) $\frac{3}{4} \times 6 =$



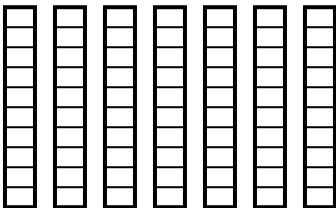
9) $\frac{1}{2} \times 4 =$



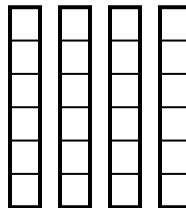
10) $\frac{2}{3} \times 2 =$



11) $\frac{8}{10} \times 7 =$



12) $\frac{3}{6} \times 4 =$



Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____



Solve each problem. Answer as an improper fraction (if necessary).

1) $\frac{1}{6} \times \frac{4}{5} =$

2) $\frac{1}{2} \times \frac{2}{3} =$

3) $\frac{1}{3} \times \frac{3}{5} =$

4) $\frac{4}{5} \times \frac{7}{8} =$

5) $\frac{4}{7} \times \frac{1}{8} =$

6) $\frac{1}{3} \times \frac{3}{4} =$

7) $\frac{3}{7} \times \frac{7}{9} =$

8) $\frac{2}{5} \times \frac{5}{6} =$

9) $\frac{2}{3} \times \frac{3}{4} =$

10) $\frac{5}{54} \times \frac{9}{40} =$

11) $\frac{6}{27} \times \frac{3}{42} =$

12) $\frac{9}{30} \times \frac{3}{27} =$

13) $\frac{5}{2} \times 1\frac{3}{7} =$

14) $\frac{10}{3} \times 3\frac{1}{4} =$

15) $\frac{17}{8} \times 2\frac{6}{7} =$

16) $\frac{11}{8} \times 1\frac{5}{7} =$

17) $\frac{7}{8} \times \frac{10}{7} =$

18) $\frac{10}{9} \times 1\frac{1}{4} =$

Answers

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7. _____

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13. _____

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16. _____

17. _____

18. _____



Solve each problem. Answer as an improper fraction (if necessary).

Answers

1) $\frac{3}{5} \times \frac{2}{9} =$

2) $\frac{2}{5} \times \frac{1}{2} =$

3) $\frac{4}{5} \times \frac{3}{4} =$

4) $\frac{4}{7} \times \frac{9}{10} =$

5) $\frac{4}{7} \times \frac{5}{8} =$

6) $\frac{2}{5} \times \frac{1}{4} =$

7) $\frac{5}{9} \times \frac{9}{10} =$

8) $\frac{3}{4} \times \frac{2}{3} =$

9) $\frac{2}{3} \times \frac{3}{10} =$

10) $\frac{3}{72} \times \frac{8}{12} =$

11) $\frac{3}{9} \times \frac{3}{12} =$

12) $\frac{8}{16} \times \frac{4}{32} =$

13) $\frac{15}{8} \times 2\frac{2}{3} =$

14) $\frac{1}{2} \times \frac{8}{3} =$

15) $\frac{9}{8} \times 2\frac{2}{5} =$

16) $1\frac{1}{3} \times \frac{1}{8} =$

17) $1\frac{1}{7} \times \frac{1}{6} =$

18) $\frac{2}{3} \times \frac{7}{6} =$

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14. _____

15. _____

16. _____

17. _____

18. _____



Solve each problem. Answer as an improper fraction (if necessary).

Answers

1) $\frac{2}{5} \times \frac{1}{2} =$

2) $\frac{2}{3} \times \frac{1}{4} =$

3) $\frac{1}{3} \times \frac{3}{7} =$

4) $\frac{1}{8} \times \frac{4}{5} =$

5) $\frac{2}{3} \times \frac{1}{2} =$

6) $\frac{1}{2} \times \frac{6}{7} =$

7) $\frac{4}{9} \times \frac{9}{10} =$

8) $\frac{3}{4} \times \frac{2}{9} =$

9) $\frac{3}{8} \times \frac{2}{3} =$

10) $\frac{7}{40} \times \frac{8}{70} =$

11) $\frac{5}{54} \times \frac{6}{30} =$

12) $\frac{4}{81} \times \frac{9}{32} =$

13) $\frac{7}{8} \times 2\frac{5}{7} =$

14) $\frac{5}{8} \times 1\frac{4}{5} =$

15) $\frac{4}{3} \times \frac{3}{4} =$

16) $1\frac{7}{10} \times \frac{5}{3} =$

17) $\frac{15}{4} \times 2\frac{1}{3} =$

18) $\frac{2}{3} \times \frac{11}{10} =$

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17. _____

18. _____



Solve each problem. Answer as an improper fraction (if necessary).

1) $\frac{2}{3} \times \frac{1}{4} =$

2) $\frac{1}{6} \times \frac{2}{5} =$

3) $\frac{2}{3} \times \frac{7}{8} =$

4) $\frac{3}{5} \times \frac{2}{3} =$

5) $\frac{1}{2} \times \frac{2}{3} =$

6) $\frac{5}{9} \times \frac{4}{5} =$

7) $\frac{3}{4} \times \frac{4}{9} =$

8) $\frac{5}{6} \times \frac{3}{5} =$

9) $\frac{9}{10} \times \frac{2}{3} =$

10) $\frac{6}{9} \times \frac{3}{18} =$

11) $\frac{3}{18} \times \frac{9}{27} =$

12) $\frac{8}{20} \times \frac{5}{48} =$

13) $1\frac{1}{2} \times \frac{2}{3} =$

14) $1\frac{5}{9} \times \frac{16}{7} =$

15) $\frac{17}{8} \times 1\frac{1}{7} =$

16) $\frac{2}{3} \times \frac{24}{7} =$

17) $\frac{7}{2} \times 2\frac{6}{7} =$

18) $\frac{13}{4} \times 2\frac{2}{3} =$

Answers

1. _____

2. _____

3. _____

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12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____



Solve each problem.

1) $\frac{1}{5} \div \frac{2}{3} =$

2) $\frac{2}{3} \div \frac{1}{4} =$

3) $\frac{2}{3} \div \frac{1}{4} =$

4) $\frac{1}{2} \div \frac{1}{4} =$

5) $\frac{2}{3} \div \frac{3}{4} =$

6) $\frac{2}{4} \div \frac{1}{2} =$

7) $\frac{2}{4} \div \frac{1}{2} =$

8) $\frac{1}{4} \div \frac{1}{3} =$

9) $\frac{3}{5} \div \frac{1}{2} =$

10) $\frac{3}{5} \div \frac{1}{4} =$

11) $\frac{1}{3} \div \frac{1}{2} =$

12) $\frac{1}{2} \div \frac{3}{4} =$

Answers

1. _____

2. _____

3. _____

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10. _____

11. _____

12. _____



Solve each problem.

1) $\frac{1}{3} \div \frac{2}{5} =$

2) $\frac{1}{2} \div \frac{1}{3} =$

3) $\frac{1}{2} \div \frac{2}{3} =$

4) $\frac{1}{3} \div \frac{1}{2} =$

5) $\frac{1}{2} \div \frac{4}{5} =$

6) $\frac{2}{4} \div \frac{3}{5} =$

7) $\frac{3}{5} \div \frac{1}{3} =$

8) $\frac{3}{5} \div \frac{3}{4} =$

9) $\frac{1}{4} \div \frac{1}{2} =$

10) $\frac{3}{4} \div \frac{1}{3} =$

11) $\frac{1}{2} \div \frac{2}{3} =$

12) $\frac{2}{5} \div \frac{1}{2} =$

Answers

1. _____

2. _____

3. _____

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11. _____

12. _____



Solve each problem.

1) $\frac{1}{2} \div \frac{3}{4} =$

2) $\frac{1}{2} \div \frac{2}{3} =$

3) $\frac{1}{3} \div \frac{3}{4} =$

4) $\frac{1}{5} \div \frac{1}{3} =$

5) $\frac{1}{2} \div \frac{1}{3} =$

6) $\frac{1}{2} \div \frac{1}{5} =$

7) $\frac{3}{4} \div \frac{1}{3} =$

8) $\frac{1}{2} \div \frac{2}{5} =$

9) $\frac{1}{3} \div \frac{2}{4} =$

10) $\frac{1}{5} \div \frac{1}{3} =$

11) $\frac{1}{2} \div \frac{4}{5} =$

12) $\frac{1}{2} \div \frac{2}{5} =$

Answers

1. _____

2. _____

3. _____

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9. _____

10. _____

11. _____

12. _____



Solve each problem.

1) $\frac{2}{3} \div \frac{4}{5} =$

2) $\frac{1}{3} \div \frac{1}{2} =$

3) $\frac{1}{2} \div \frac{1}{5} =$

4) $\frac{3}{4} \div \frac{3}{5} =$

5) $\frac{1}{2} \div \frac{1}{3} =$

6) $\frac{2}{4} \div \frac{1}{2} =$

7) $\frac{2}{3} \div \frac{3}{4} =$

8) $\frac{3}{4} \div \frac{3}{5} =$

9) $\frac{1}{3} \div \frac{1}{5} =$

10) $\frac{1}{3} \div \frac{1}{2} =$

11) $\frac{3}{5} \div \frac{1}{2} =$

12) $\frac{1}{5} \div \frac{1}{2} =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____



Solve each problem.

1) $\frac{1}{3} \div 9 =$

2) $\frac{1}{3} \div 7 =$

3) $\frac{1}{3} \div 3 =$

4) $\frac{1}{3} \div 2 =$

5) $\frac{1}{4} \div 3 =$

6) $\frac{1}{4} \div 4 =$

7) $\frac{1}{4} \div 4 =$

8) $\frac{1}{3} \div 4 =$

9) $\frac{1}{5} \div 5 =$

10) $\frac{1}{4} \div 5 =$

11) $\frac{1}{3} \div 7 =$

12) $\frac{1}{4} \div 6 =$

13) $\frac{1}{4} \div 2 =$

14) $\frac{1}{4} \div 4 =$

15) $\frac{1}{4} \div 7 =$

16) $\frac{1}{2} \div 7 =$

17) $\frac{1}{3} \div 8 =$

18) $\frac{1}{2} \div 5 =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____



Solve each problem.

1) $\frac{1}{3} \div 3 =$

2) $\frac{1}{3} \div 6 =$

3) $\frac{1}{2} \div 2 =$

4) $\frac{1}{4} \div 3 =$

5) $\frac{1}{4} \div 2 =$

6) $\frac{1}{4} \div 4 =$

7) $\frac{1}{3} \div 9 =$

8) $\frac{1}{3} \div 9 =$

9) $\frac{1}{2} \div 8 =$

10) $\frac{1}{4} \div 8 =$

11) $\frac{1}{3} \div 2 =$

12) $\frac{1}{3} \div 9 =$

13) $\frac{1}{2} \div 2 =$

14) $\frac{1}{3} \div 7 =$

15) $\frac{1}{5} \div 4 =$

16) $\frac{1}{3} \div 6 =$

17) $\frac{1}{5} \div 8 =$

18) $\frac{1}{4} \div 3 =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____



Solve each problem.

1) $\frac{1}{3} \div 2 =$

2) $\frac{1}{4} \div 6 =$

3) $\frac{1}{2} \div 3 =$

4) $\frac{1}{4} \div 5 =$

5) $\frac{1}{5} \div 2 =$

6) $\frac{1}{2} \div 2 =$

7) $\frac{1}{3} \div 4 =$

8) $\frac{1}{2} \div 6 =$

9) $\frac{1}{4} \div 7 =$

10) $\frac{1}{2} \div 5 =$

11) $\frac{1}{3} \div 6 =$

12) $\frac{1}{4} \div 2 =$

13) $\frac{1}{3} \div 2 =$

14) $\frac{1}{5} \div 2 =$

15) $\frac{1}{5} \div 9 =$

16) $\frac{1}{4} \div 6 =$

17) $\frac{1}{2} \div 9 =$

18) $\frac{1}{2} \div 7 =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

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16. _____

17. _____

18. _____