



RADIANT HEIGHTS ACADEMY

From Radiant Minds to Great Heights

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Student Name: _____

MATHEMATICS BOOKLET

Level 5-6 Term 2 Week 7

THIS WEEK'S FOCUS

- ✓ Multiplying & Dividing Fractions
- ✓ Simplifying 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!



Reduce each fraction as much as possible.

Ex) $\frac{35}{56} = \frac{5}{8}$

1) $\frac{6}{36} = -$

2) $\frac{16}{24} = -$

3) $\frac{2}{6} = -$

4) $\frac{56}{64} = -$

5) $\frac{2}{12} = -$

6) $\frac{10}{40} = -$

7) $\frac{8}{24} = -$

8) $\frac{27}{72} = -$

9) $\frac{9}{54} = -$

10) $\frac{27}{36} = -$

11) $\frac{20}{32} = -$

12) $\frac{7}{14} = -$

13) $\frac{3}{24} = -$

14) $\frac{2}{16} = -$

15) $\frac{18}{48} = -$

16) $\frac{30}{48} = -$

17) $\frac{9}{12} = -$

18) $\frac{9}{36} = -$

19) $\frac{12}{18} = -$

20) $\frac{15}{18} = -$

Answers

Ex. $\frac{5}{8}$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____



Reduce each fraction as much as possible.

Ex) $\frac{7}{56} = \frac{1}{8}$

1) $\frac{30}{80} = \text{--}$

2) $\frac{12}{32} = \text{--}$

3) $\frac{14}{21} = \text{--}$

4) $\frac{49}{56} = \text{--}$

5) $\frac{6}{9} = \text{--}$

6) $\frac{9}{36} = \text{--}$

7) $\frac{10}{30} = \text{--}$

8) $\frac{8}{24} = \text{--}$

9) $\frac{4}{8} = \text{--}$

10) $\frac{4}{12} = \text{--}$

11) $\frac{27}{36} = \text{--}$

12) $\frac{4}{6} = \text{--}$

13) $\frac{30}{40} = \text{--}$

14) $\frac{27}{72} = \text{--}$

15) $\frac{3}{9} = \text{--}$

16) $\frac{15}{40} = \text{--}$

17) $\frac{12}{18} = \text{--}$

18) $\frac{21}{56} = \text{--}$

19) $\frac{9}{18} = \text{--}$

20) $\frac{10}{16} = \text{--}$

Answers

Ex. $\frac{1}{8}$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

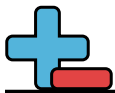
16. _____

17. _____

18. _____

19. _____

20. _____



Reduce each fraction as much as possible.

Ex) $\frac{5}{15} = \frac{1}{3}$

1) $\frac{2}{4} = \text{--}$

2) $\frac{9}{36} = \text{--}$

3) $\frac{7}{56} = \text{--}$

4) $\frac{9}{54} = \text{--}$

5) $\frac{4}{24} = \text{--}$

6) $\frac{10}{60} = \text{--}$

7) $\frac{27}{36} = \text{--}$

8) $\frac{50}{60} = \text{--}$

9) $\frac{2}{12} = \text{--}$

10) $\frac{6}{36} = \text{--}$

11) $\frac{25}{40} = \text{--}$

12) $\frac{8}{64} = \text{--}$

13) $\frac{10}{30} = \text{--}$

14) $\frac{7}{42} = \text{--}$

15) $\frac{4}{8} = \text{--}$

16) $\frac{18}{48} = \text{--}$

17) $\frac{35}{40} = \text{--}$

18) $\frac{25}{30} = \text{--}$

19) $\frac{5}{30} = \text{--}$

20) $\frac{3}{9} = \text{--}$

Answers

Ex. $\frac{1}{3}$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____



Reduce each fraction as much as possible.

Ex) $\frac{9}{12} = \frac{3}{4}$

1) $\frac{9}{72} = \text{--}$

2) $\frac{25}{30} = \text{--}$

3) $\frac{6}{8} = \text{--}$

4) $\frac{12}{32} = \text{--}$

5) $\frac{10}{80} = \text{--}$

6) $\frac{2}{6} = \text{--}$

7) $\frac{27}{72} = \text{--}$

8) $\frac{21}{24} = \text{--}$

9) $\frac{7}{21} = \text{--}$

10) $\frac{8}{16} = \text{--}$

11) $\frac{20}{24} = \text{--}$

12) $\frac{8}{48} = \text{--}$

13) $\frac{2}{16} = \text{--}$

14) $\frac{10}{20} = \text{--}$

15) $\frac{6}{18} = \text{--}$

16) $\frac{18}{27} = \text{--}$

17) $\frac{2}{12} = \text{--}$

18) $\frac{27}{36} = \text{--}$

19) $\frac{8}{24} = \text{--}$

20) $\frac{3}{9} = \text{--}$

Answers

Ex. $\frac{3}{4}$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____



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

Answers

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

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

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

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

5) $\frac{1}{10} \times \frac{5}{9} =$

6) $\frac{1}{2} \times \frac{4}{7} =$

7) $\frac{8}{9} \times \frac{3}{10} =$

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

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

10) $\frac{3}{56} \times \frac{7}{18} =$

11) $\frac{4}{56} \times \frac{7}{40} =$

12) $\frac{2}{63} \times \frac{9}{8} =$

13) $\frac{10}{3} \times \frac{3}{8} =$

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

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

16) $3\frac{3}{10} \times \frac{1}{6} =$

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

18) $3\frac{1}{2} \times \frac{23}{7} =$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____



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

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

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

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

4) $\frac{3}{10} \times \frac{6}{7} =$

5) $\frac{2}{7} \times \frac{9}{10} =$

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

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

8) $\frac{6}{7} \times \frac{7}{9} =$

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

10) $\frac{9}{35} \times \frac{5}{81} =$

11) $\frac{7}{12} \times \frac{6}{21} =$

12) $\frac{2}{25} \times \frac{5}{20} =$

13) $\frac{23}{6} \times 3\frac{6}{7} =$

14) $\frac{8}{3} \times 1\frac{5}{6} =$

15) $\frac{8}{5} \times 3\frac{1}{4} =$

16) $1\frac{2}{7} \times \frac{1}{3} =$

17) $1\frac{1}{5} \times \frac{1}{3} =$

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

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____



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

Answers

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

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

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

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

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

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

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

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

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

10) $\frac{3}{48} \times \frac{6}{24} =$

11) $\frac{5}{54} \times \frac{6}{10} =$

12) $\frac{2}{30} \times \frac{3}{8} =$

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

14) $\frac{7}{9} \times 1\frac{6}{7} =$

15) $3\frac{1}{3} \times \frac{11}{6} =$

16) $\frac{21}{10} \times 1\frac{1}{3} =$

17) $2\frac{1}{3} \times \frac{9}{10} =$

18) $\frac{3}{4} \times \frac{8}{7} =$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____



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

Answers

1) $\frac{3}{5} \times \frac{7}{9} =$

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

3) $\frac{1}{4} \times \frac{2}{7} =$

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

5) $\frac{3}{4} \times \frac{5}{9} =$

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

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

8) $\frac{5}{6} \times \frac{9}{10} =$

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

10) $\frac{4}{24} \times \frac{6}{20} =$

11) $\frac{7}{40} \times \frac{5}{28} =$

12) $\frac{9}{4} \times \frac{2}{45} =$

13) $\frac{1}{2} \times \frac{14}{9} =$

14) $\frac{16}{9} \times 2\frac{1}{2} =$

15) $\frac{18}{5} \times 2\frac{3}{4} =$

16) $\frac{2}{5} \times \frac{17}{6} =$

17) $3\frac{1}{3} \times \frac{1}{6} =$

18) $\frac{10}{3} \times 3\frac{1}{2} =$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____



Dividing fractions

Grade 6 Fraction Worksheet

Find the quotient.

1. $\frac{9}{10} \div \frac{1}{3} =$ _____

2. $\frac{1}{6} \div \frac{2}{10} =$ _____

3. $\frac{1}{7} \div \frac{2}{10} =$ _____

4. $\frac{1}{4} \div \frac{5}{6} =$ _____

5. $\frac{6}{9} \div \frac{8}{9} =$ _____

6. $\frac{5}{6} \div \frac{2}{3} =$ _____

7. $\frac{2}{3} \div \frac{9}{12} =$ _____

8. $\frac{9}{11} \div \frac{1}{6} =$ _____

9. $\frac{2}{5} \div \frac{3}{7} =$ _____

10. $\frac{2}{3} \div \frac{1}{3} =$ _____



Dividing fractions

Grade 6 Fraction Worksheet

Find the quotient.

1. $\frac{2}{3} \div \frac{7}{10} =$ _____

2. $\frac{3}{4} \div \frac{1}{4} =$ _____

3. $\frac{3}{10} \div \frac{2}{4} =$ _____

4. $\frac{9}{12} \div \frac{8}{9} =$ _____

5. $\frac{7}{9} \div \frac{8}{10} =$ _____

6. $\frac{3}{4} \div \frac{3}{6} =$ _____

7. $\frac{2}{3} \div \frac{6}{12} =$ _____

8. $\frac{1}{10} \div \frac{5}{8} =$ _____

9. $\frac{7}{8} \div \frac{2}{3} =$ _____

10. $\frac{4}{5} \div \frac{9}{12} =$ _____



Dividing mixed numbers by fractions

Grade 6 Fraction Worksheet

Find the quotient.

1. $5\frac{3}{5} \div \frac{1}{5} =$ _____

2. $11\frac{1}{2} \div \frac{1}{2} =$ _____

3. $15\frac{2}{3} \div \frac{1}{3} =$ _____

4. $11\frac{3}{4} \div \frac{1}{4} =$ _____

5. $15\frac{4}{6} \div \frac{3}{6} =$ _____

6. $2\frac{5}{10} \div \frac{8}{10} =$ _____

7. $9\frac{11}{12} \div \frac{3}{12} =$ _____

8. $6\frac{1}{9} \div \frac{7}{9} =$ _____

9. $1\frac{1}{2} \div \frac{1}{2} =$ _____

10. $10\frac{1}{3} \div \frac{1}{3} =$ _____



Dividing mixed numbers by fractions

Grade 6 Fraction Worksheet

Find the quotient.

1. $13\frac{1}{2} \div \frac{1}{2} =$ _____

2. $2\frac{1}{4} \div \frac{1}{4} =$ _____

3. $3\frac{5}{8} \div \frac{2}{8} =$ _____

4. $1\frac{3}{11} \div \frac{2}{11} =$ _____

5. $10\frac{1}{7} \div \frac{5}{7} =$ _____

6. $12\frac{3}{5} \div \frac{3}{5} =$ _____

7. $13\frac{1}{6} \div \frac{3}{6} =$ _____

8. $5\frac{1}{3} \div \frac{1}{3} =$ _____

9. $9\frac{10}{11} \div \frac{6}{11} =$ _____

10. $6\frac{3}{4} \div \frac{1}{4} =$ _____

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