

Fractions

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Section 1 — Multiplication

Multiply the fractions. Simplify your answer completely.

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

2. $\frac{2}{3} \times \frac{3}{5} =$ _____

3. $\frac{3}{4} \times \frac{2}{3} =$ _____

4. $\frac{5}{6} \times \frac{3}{10} =$ _____

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

6. $\frac{4}{5} \times \frac{5}{8} =$ _____

7. $\frac{7}{8} \times \frac{4}{7} =$ _____

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

9. $\frac{5}{6} \times \frac{6}{7} =$ _____

10. $\frac{3}{8} \times \frac{8}{9} =$ _____

Section 2 — Division

Divide the fractions. To divide by a fraction, multiply by its reciprocal. Simplify your answer completely.

11. $\frac{1}{2} \div \frac{1}{4} = \underline{\hspace{2cm}}$

12. $\frac{3}{4} \div \frac{1}{2} = \underline{\hspace{2cm}}$

13. $\frac{2}{3} \div \frac{4}{9} = \underline{\hspace{2cm}}$

14. $\frac{5}{6} \div \frac{5}{12} = \underline{\hspace{2cm}}$

15. $\frac{3}{5} \div \frac{9}{10} = \underline{\hspace{2cm}}$

16. $\frac{7}{8} \div \frac{7}{16} = \underline{\hspace{2cm}}$

17. $\frac{4}{5} \div \frac{2}{3} = \underline{\hspace{2cm}}$

18. $\frac{1}{3} \div \frac{2}{9} = \underline{\hspace{2cm}}$

19. $\frac{5}{8} \div \frac{15}{16} = \underline{\hspace{2cm}}$

20. $\frac{2}{7} \div \frac{4}{7} = \underline{\hspace{2cm}}$

21. $\frac{3}{4} \div \frac{9}{16} = \underline{\hspace{2cm}}$

22. $\frac{5}{9} \div \frac{10}{27} = \underline{\hspace{2cm}}$

23. $\frac{7}{10} \div \frac{7}{5} = \underline{\hspace{2cm}}$

24. $\frac{2}{5} \div \frac{6}{25} = \underline{\hspace{2cm}}$

Answer Key

Section 1 — Multiplication (problems 1–10)

1. $\frac{3}{8}$	2. $\frac{2}{5}$	3. $\frac{1}{2}$
4. $\frac{1}{4}$	5. $\frac{3}{10}$	6. $\frac{1}{2}$
7. $\frac{1}{2}$	8. $\frac{1}{6}$	9. $\frac{5}{7}$
10. $\frac{1}{3}$		

Section 2 — Division (problems 11–24)

11. 2	12. $\frac{3}{2}$	13. $\frac{3}{2}$
14. 2	15. $\frac{2}{3}$	16. 2
17. $\frac{6}{5}$	18. $\frac{3}{2}$	19. $\frac{2}{3}$
20. $\frac{1}{2}$	21. $\frac{4}{3}$	22. $\frac{3}{2}$
23. $\frac{1}{2}$	24. $\frac{5}{3}$	

Full Solutions

Multiplication: multiply numerators together, then denominators. Simplify.

Section 1 — Multiplication

1. $\frac{1}{2} \times \frac{3}{4}$

$\frac{3}{8}$

Multiply numerators: $1 \times 3 = 3$

Multiply denominators: $2 \times 4 = 8$

Already fully simplified: $\frac{3}{8}$

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

$\frac{2}{5}$

Multiply numerators: $2 \times 3 = 6$

Multiply denominators: $3 \times 5 = 15$

Simplify $\frac{6}{15}$: GCF = 3, divide by 3 $\rightarrow \frac{2}{5}$

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

$\frac{1}{2}$

Multiply numerators: $3 \times 2 = 6$

Multiply denominators: $4 \times 3 = 12$

Simplify $\frac{6}{12}$: GCF = 6, divide by 6 $\rightarrow \frac{1}{2}$

4. $\frac{5}{6} \times \frac{3}{10}$

$\frac{1}{4}$

Multiply numerators: $5 \times 3 = 15$

Multiply denominators: $6 \times 10 = 60$

Simplify $\frac{15}{60}$: GCF = 15, divide by 15 $\rightarrow \frac{1}{4}$

5. $\frac{1}{3} \times \frac{9}{10}$

$\frac{3}{10}$

Multiply numerators: $1 \times 9 = 9$

Multiply denominators: $3 \times 10 = 30$

Simplify $\frac{9}{30}$: GCF = 3, divide by 3 $\rightarrow \frac{3}{10}$

6. $\frac{4}{5} \times \frac{5}{8}$

$\frac{1}{2}$

Multiply numerators: $4 \times 5 = 20$

Multiply denominators: $5 \times 8 = 40$

Simplify $\frac{20}{40}$: GCF = 20, divide by 20 $\rightarrow \frac{1}{2}$

7. $\frac{7}{8} \times \frac{4}{7}$

$\frac{1}{2}$

Multiply numerators: $7 \times 4 = 28$

Multiply denominators: $8 \times 7 = 56$

Simplify $\frac{28}{56}$: GCF = 28, divide by 28 $\rightarrow \frac{1}{2}$

8. $2/9 \times 3/4$ **1/6**

Multiply numerators: $2 \times 3 = 6$

Multiply denominators: $9 \times 4 = 36$

Simplify 6/36: GCF = 6, divide by 6 $\rightarrow 1/6$

9. $5/6 \times 6/7$ **5/7**

Multiply numerators: $5 \times 6 = 30$

Multiply denominators: $6 \times 7 = 42$

Simplify 30/42: GCF = 6, divide by 6 $\rightarrow 5/7$

10. $3/8 \times 8/9$ **1/3**

Multiply numerators: $3 \times 8 = 24$

Multiply denominators: $8 \times 9 = 72$

Simplify 24/72: GCF = 24, divide by 24 $\rightarrow 1/3$

Full Solutions — continued

Division: multiply the first fraction by the reciprocal of the second. Simplify.

Section 2 — Division

11. $1/2 \div 1/4$

2

Flip the second fraction: $1/4 \rightarrow 4/1$

Multiply: $1/2 \times 4/1 = 4/2$

Simplify $4/2$: GCF = 2, divide by 2 $\rightarrow 2$

12. $3/4 \div 1/2$

$3/2$

Flip the second fraction: $1/2 \rightarrow 2/1$

Multiply: $3/4 \times 2/1 = 6/4$

Simplify $6/4$: GCF = 2, divide by 2 $\rightarrow 3/2$

13. $2/3 \div 4/9$

$3/2$

Flip the second fraction: $4/9 \rightarrow 9/4$

Multiply: $2/3 \times 9/4 = 18/12$

Simplify $18/12$: GCF = 6, divide by 6 $\rightarrow 3/2$

14. $5/6 \div 5/12$

2

Flip the second fraction: $5/12 \rightarrow 12/5$

Multiply: $5/6 \times 12/5 = 60/30$

Simplify $60/30$: GCF = 30, divide by 30 $\rightarrow 2$

15. $3/5 \div 9/10$

$2/3$

Flip the second fraction: $9/10 \rightarrow 10/9$

Multiply: $3/5 \times 10/9 = 30/45$

Simplify $30/45$: GCF = 15, divide by 15 $\rightarrow 2/3$

16. $7/8 \div 7/16$

2

Flip the second fraction: $7/16 \rightarrow 16/7$

Multiply: $7/8 \times 16/7 = 112/56$

Simplify $112/56$: GCF = 56, divide by 56 $\rightarrow 2$

17. $4/5 \div 2/3$

$6/5$

Flip the second fraction: $2/3 \rightarrow 3/2$

Multiply: $4/5 \times 3/2 = 12/10$

Simplify $12/10$: GCF = 2, divide by 2 $\rightarrow 6/5$

18.	$1/3 \div 2/9$	3/2
	Flip the second fraction: $2/9 \rightarrow 9/2$ Multiply: $1/3 \times 9/2 = 9/6$ Simplify $9/6$: GCF = 3, divide by 3 $\rightarrow 3/2$	
19.	$5/8 \div 15/16$	2/3
	Flip the second fraction: $15/16 \rightarrow 16/15$ Multiply: $5/8 \times 16/15 = 80/120$ Simplify $80/120$: GCF = 40, divide by 40 $\rightarrow 2/3$	
20.	$2/7 \div 4/7$	1/2
	Flip the second fraction: $4/7 \rightarrow 7/4$ Multiply: $2/7 \times 7/4 = 14/28$ Simplify $14/28$: GCF = 14, divide by 14 $\rightarrow 1/2$	
21.	$3/4 \div 9/16$	4/3
	Flip the second fraction: $9/16 \rightarrow 16/9$ Multiply: $3/4 \times 16/9 = 48/36$ Simplify $48/36$: GCF = 12, divide by 12 $\rightarrow 4/3$	
22.	$5/9 \div 10/27$	3/2
	Flip the second fraction: $10/27 \rightarrow 27/10$ Multiply: $5/9 \times 27/10 = 135/90$ Simplify $135/90$: GCF = 45, divide by 45 $\rightarrow 3/2$	
23.	$7/10 \div 7/5$	1/2
	Flip the second fraction: $7/5 \rightarrow 5/7$ Multiply: $7/10 \times 5/7 = 35/70$ Simplify $35/70$: GCF = 35, divide by 35 $\rightarrow 1/2$	
24.	$2/5 \div 6/25$	5/3
	Flip the second fraction: $6/25 \rightarrow 25/6$ Multiply: $2/5 \times 25/6 = 50/30$ Simplify $50/30$: GCF = 10, divide by 10 $\rightarrow 5/3$	