

Grade 5 Fractions Workbook

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Equivalent Fractions

WORKED EXAMPLE

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

1. Equivalent fractions

Write the missing number that makes the fractions equal.

$$1 \quad \frac{1}{2} = \frac{\quad}{4}$$

$$2 \quad \frac{1}{3} = \frac{\quad}{6}$$

$$3 \quad \frac{1}{2} = \frac{\quad}{8}$$

$$4 \quad \frac{2}{3} = \frac{\quad}{6}$$

$$5 \quad \frac{1}{2} = \frac{\quad}{6}$$

$$6 \quad \frac{1}{4} = \frac{\quad}{8}$$

Multiplying Fractions

WORKED EXAMPLE

$$\frac{5}{6} \times \frac{5}{8} = \frac{25}{48}$$

2. Multiplying fractions

Multiply. Write each answer in simplest form.

$$1 \quad \frac{4}{6} \times \frac{2}{4} = \text{—}$$

$$2 \quad \frac{4}{6} \times \frac{2}{7} = \text{—}$$

$$3 \quad \frac{7}{8} \times \frac{1}{8} = \text{—}$$

$$4 \quad \frac{7}{8} \times \frac{1}{7} = \text{—}$$

$$5 \quad \frac{1}{7} \times \frac{7}{8} = \text{—}$$

$$6 \quad \frac{7}{8} \times \frac{2}{8} = \text{—}$$

$$7 \quad \frac{6}{8} \times \frac{5}{7} = \text{—}$$

$$8 \quad \frac{3}{5} \times \frac{7}{8} = \text{—}$$

$$9 \quad \frac{1}{3} \times \frac{4}{6} = \text{—}$$

$$10 \quad \frac{4}{5} \times \frac{5}{7} = \text{—}$$

$$11 \quad \frac{2}{7} \times \frac{2}{6} = \text{—}$$

$$12 \quad \frac{4}{7} \times \frac{3}{6} = \text{—}$$

$$13 \quad \frac{3}{7} \times \frac{1}{8} = \text{—}$$

$$14 \quad \frac{2}{5} \times \frac{5}{8} = \text{—}$$

$$15 \quad \frac{6}{8} \times \frac{6}{7} = \text{—}$$

$$16 \quad \frac{5}{7} \times \frac{3}{7} = \text{—}$$

Mixed Numbers

WORKED EXAMPLE

$$2\frac{2}{5} + 5\frac{2}{5} = 7\frac{4}{5}$$

3. Adding mixed numbers

Add. Write each answer as a mixed number in simplest form.

1 $2\frac{3}{8} + 3\frac{1}{8} = \underline{\hspace{1cm}}$

4 $1\frac{1}{3} + 4\frac{1}{3} = \underline{\hspace{1cm}}$

7 $5\frac{4}{5} + 1\frac{2}{5} = \underline{\hspace{1cm}}$

10 $3\frac{5}{6} + 3\frac{5}{6} = \underline{\hspace{1cm}}$

13 $5\frac{3}{8} + 1\frac{1}{8} = \underline{\hspace{1cm}}$

16 $1\frac{5}{8} + 2\frac{1}{8} = \underline{\hspace{1cm}}$

19 $3\frac{3}{5} + 2\frac{2}{5} = \underline{\hspace{1cm}}$

22 $1\frac{4}{7} + 5\frac{1}{7} = \underline{\hspace{1cm}}$

25 $4\frac{2}{7} + 2\frac{2}{7} = \underline{\hspace{1cm}}$

28 $5\frac{6}{7} + 1\frac{2}{7} = \underline{\hspace{1cm}}$

31 $3\frac{1}{6} + 1\frac{1}{6} = \underline{\hspace{1cm}}$

34 $2\frac{1}{5} + 4\frac{3}{5} = \underline{\hspace{1cm}}$

37 $2\frac{3}{4} + 5\frac{3}{4} = \underline{\hspace{1cm}}$

40 $5\frac{4}{7} + 5\frac{2}{7} = \underline{\hspace{1cm}}$

43 $1\frac{3}{5} + 4\frac{1}{5} = \underline{\hspace{1cm}}$

2 $2\frac{3}{7} + 4\frac{4}{7} = \underline{\hspace{1cm}}$

5 $2\frac{4}{7} + 1\frac{4}{7} = \underline{\hspace{1cm}}$

8 $3\frac{2}{7} + 1\frac{4}{7} = \underline{\hspace{1cm}}$

11 $5\frac{2}{5} + 2\frac{1}{5} = \underline{\hspace{1cm}}$

14 $1\frac{4}{5} + 1\frac{2}{5} = \underline{\hspace{1cm}}$

17 $3\frac{6}{7} + 4\frac{1}{7} = \underline{\hspace{1cm}}$

20 $4\frac{1}{7} + 3\frac{4}{7} = \underline{\hspace{1cm}}$

23 $5\frac{3}{5} + 5\frac{1}{5} = \underline{\hspace{1cm}}$

26 $5\frac{2}{5} + 2\frac{4}{5} = \underline{\hspace{1cm}}$

29 $1\frac{4}{7} + 1\frac{1}{7} = \underline{\hspace{1cm}}$

32 $4\frac{1}{5} + 2\frac{3}{5} = \underline{\hspace{1cm}}$

35 $4\frac{3}{7} + 5\frac{5}{7} = \underline{\hspace{1cm}}$

38 $1\frac{1}{5} + 5\frac{3}{5} = \underline{\hspace{1cm}}$

41 $2\frac{4}{7} + 2\frac{2}{7} = \underline{\hspace{1cm}}$

3 $5\frac{1}{8} + 3\frac{1}{8} = \underline{\hspace{1cm}}$

6 $1\frac{2}{7} + 5\frac{2}{7} = \underline{\hspace{1cm}}$

9 $2\frac{3}{5} + 1\frac{1}{5} = \underline{\hspace{1cm}}$

12 $5\frac{5}{6} + 5\frac{5}{6} = \underline{\hspace{1cm}}$

15 $5\frac{1}{7} + 2\frac{4}{7} = \underline{\hspace{1cm}}$

18 $4\frac{1}{4} + 4\frac{1}{4} = \underline{\hspace{1cm}}$

21 $5\frac{7}{8} + 5\frac{3}{8} = \underline{\hspace{1cm}}$

24 $5\frac{6}{7} + 5\frac{5}{7} = \underline{\hspace{1cm}}$

27 $3\frac{3}{7} + 1\frac{1}{7} = \underline{\hspace{1cm}}$

30 $2\frac{6}{7} + 2\frac{3}{7} = \underline{\hspace{1cm}}$

33 $2\frac{5}{6} + 1\frac{1}{6} = \underline{\hspace{1cm}}$

36 $1\frac{1}{4} + 5\frac{1}{4} = \underline{\hspace{1cm}}$

39 $4\frac{4}{5} + 5\frac{2}{5} = \underline{\hspace{1cm}}$

42 $2\frac{4}{5} + 1\frac{2}{5} = \underline{\hspace{1cm}}$

Decimals as Fractions

WORKED EXAMPLE

$$0.4 \rightarrow \frac{2}{5}$$

4. Decimals as fractions

Write each decimal as a fraction in simplest form.

$$1 \quad 0.75 \rightarrow \text{—}$$

$$2 \quad 0.375 \rightarrow \text{—}$$

$$3 \quad 0.6 \rightarrow \text{—}$$

$$4 \quad 0.625 \rightarrow \text{—}$$

$$5 \quad 0.25 \rightarrow \text{—}$$

$$6 \quad 0.125 \rightarrow \text{—}$$

$$7 \quad 0.2 \rightarrow \text{—}$$

$$8 \quad 0.8 \rightarrow \text{—}$$

$$9 \quad 0.875 \rightarrow \text{—}$$

$$10 \quad 0.5 \rightarrow \text{—}$$

Adding Unlike Fractions

WORKED EXAMPLE

$$\frac{3}{5} + \frac{4}{6} = \frac{19}{15}$$

5. Add and subtract fractions

Add or subtract. Write each answer in simplest form.

1 $\frac{4}{5} + \frac{6}{7} = \text{—}$

4 $\frac{3}{7} - \frac{1}{8} = \text{—}$

7 $\frac{5}{7} + \frac{6}{8} = \text{—}$

10 $\frac{3}{5} + \frac{2}{4} = \text{—}$

13 $\frac{6}{7} - \frac{4}{5} = \text{—}$

16 $\frac{4}{7} - \frac{3}{6} = \text{—}$

19 $\frac{5}{7} - \frac{2}{8} = \text{—}$

22 $\frac{1}{3} - \frac{1}{4} = \text{—}$

25 $\frac{3}{4} - \frac{2}{5} = \text{—}$

28 $\frac{2}{3} + \frac{1}{2} = \text{—}$

31 $\frac{2}{7} + \frac{2}{5} = \text{—}$

34 $\frac{4}{5} + \frac{5}{6} = \text{—}$

37 $\frac{6}{8} + \frac{1}{5} = \text{—}$

40 $\frac{4}{5} + \frac{5}{8} = \text{—}$

43 $\frac{2}{3} - \frac{5}{8} = \text{—}$

2 $\frac{2}{4} - \frac{1}{3} = \text{—}$

5 $\frac{1}{6} + \frac{5}{7} = \text{—}$

8 $\frac{3}{8} - \frac{1}{7} = \text{—}$

11 $\frac{6}{8} - \frac{2}{3} = \text{—}$

14 $\frac{4}{5} - \frac{3}{7} = \text{—}$

17 $\frac{3}{4} + \frac{6}{8} = \text{—}$

20 $\frac{5}{6} + \frac{2}{3} = \text{—}$

23 $\frac{2}{7} + \frac{3}{5} = \text{—}$

26 $\frac{1}{3} + \frac{2}{6} = \text{—}$

29 $\frac{3}{6} - \frac{1}{4} = \text{—}$

32 $\frac{3}{8} - \frac{1}{4} = \text{—}$

35 $\frac{3}{5} - \frac{4}{8} = \text{—}$

38 $\frac{2}{3} - \frac{2}{6} = \text{—}$

41 $\frac{5}{8} - \frac{1}{4} = \text{—}$

3 $\frac{4}{7} + \frac{4}{5} = \text{—}$

6 $\frac{2}{3} - \frac{3}{5} = \text{—}$

9 $\frac{2}{7} - \frac{2}{8} = \text{—}$

12 $\frac{4}{7} + \frac{3}{8} = \text{—}$

15 $\frac{1}{4} + \frac{5}{7} = \text{—}$

18 $\frac{4}{7} - \frac{1}{3} = \text{—}$

21 $\frac{5}{7} - \frac{1}{3} = \text{—}$

24 $\frac{2}{4} - \frac{1}{8} = \text{—}$

27 $\frac{7}{8} - \frac{5}{6} = \text{—}$

30 $\frac{2}{5} - \frac{1}{8} = \text{—}$

33 $\frac{2}{5} - \frac{1}{4} = \text{—}$

36 $\frac{1}{2} - \frac{3}{8} = \text{—}$

39 $\frac{6}{8} - \frac{5}{7} = \text{—}$

42 $\frac{6}{8} + \frac{1}{2} = \text{—}$

Comparing Fractions

WORKED EXAMPLE

$$\frac{3}{7} < \frac{4}{8}$$

6. Comparing fractions

Write $>$, $=$, or $<$ between each pair of fractions.

- | | | | | |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1 $\frac{1}{6} \bigcirc \frac{3}{4}$ | 2 $\frac{1}{5} \bigcirc \frac{3}{6}$ | 3 $\frac{2}{4} \bigcirc \frac{1}{4}$ | 4 $\frac{3}{5} \bigcirc \frac{2}{5}$ | 5 $\frac{1}{2} \bigcirc \frac{2}{5}$ |
| 6 $\frac{4}{5} \bigcirc \frac{1}{2}$ | 7 $\frac{2}{8} \bigcirc \frac{1}{7}$ | 8 $\frac{2}{5} \bigcirc \frac{4}{8}$ | 9 $\frac{3}{5} \bigcirc \frac{3}{6}$ | 10 $\frac{2}{6} \bigcirc \frac{1}{4}$ |
| 11 $\frac{3}{5} \bigcirc \frac{3}{5}$ | 12 $\frac{1}{6} \bigcirc \frac{4}{7}$ | 13 $\frac{6}{8} \bigcirc \frac{1}{2}$ | 14 $\frac{1}{5} \bigcirc \frac{2}{8}$ | 15 $\frac{4}{5} \bigcirc \frac{2}{5}$ |
| 16 $\frac{1}{4} \bigcirc \frac{2}{8}$ | 17 $\frac{2}{7} \bigcirc \frac{2}{7}$ | 18 $\frac{2}{6} \bigcirc \frac{2}{3}$ | 19 $\frac{3}{4} \bigcirc \frac{6}{7}$ | 20 $\frac{3}{8} \bigcirc \frac{2}{4}$ |
| 21 $\frac{2}{4} \bigcirc \frac{2}{3}$ | 22 $\frac{2}{5} \bigcirc \frac{2}{6}$ | 23 $\frac{1}{2} \bigcirc \frac{7}{8}$ | 24 $\frac{4}{6} \bigcirc \frac{7}{8}$ | 25 $\frac{5}{7} \bigcirc \frac{2}{5}$ |
| 26 $\frac{6}{7} \bigcirc \frac{5}{8}$ | 27 $\frac{5}{8} \bigcirc \frac{1}{5}$ | 28 $\frac{5}{6} \bigcirc \frac{6}{7}$ | 29 $\frac{3}{4} \bigcirc \frac{5}{8}$ | 30 $\frac{2}{3} \bigcirc \frac{2}{6}$ |
| 31 $\frac{3}{4} \bigcirc \frac{4}{5}$ | 32 $\frac{3}{5} \bigcirc \frac{7}{8}$ | 33 $\frac{7}{8} \bigcirc \frac{4}{7}$ | 34 $\frac{2}{7} \bigcirc \frac{1}{7}$ | 35 $\frac{5}{8} \bigcirc \frac{4}{8}$ |
| 36 $\frac{1}{8} \bigcirc \frac{2}{8}$ | 37 $\frac{1}{3} \bigcirc \frac{6}{8}$ | 38 $\frac{2}{4} \bigcirc \frac{4}{6}$ | 39 $\frac{7}{8} \bigcirc \frac{3}{8}$ | 40 $\frac{1}{3} \bigcirc \frac{2}{8}$ |
| 41 $\frac{3}{4} \bigcirc \frac{2}{5}$ | 42 $\frac{3}{7} \bigcirc \frac{2}{4}$ | 43 $\frac{5}{6} \bigcirc \frac{4}{7}$ | 44 $\frac{6}{7} \bigcirc \frac{1}{6}$ | 45 $\frac{6}{8} \bigcirc \frac{2}{6}$ |
| 46 $\frac{4}{8} \bigcirc \frac{3}{7}$ | 47 $\frac{2}{4} \bigcirc \frac{4}{5}$ | 48 $\frac{3}{7} \bigcirc \frac{1}{6}$ | 49 $\frac{3}{4} \bigcirc \frac{4}{7}$ | 50 $\frac{1}{6} \bigcirc \frac{2}{7}$ |

Answer Key (1 of 3)

Equivalent Fractions

Equivalent fractions

1. $\frac{1}{2} = \frac{2}{4}$
2. $\frac{1}{3} = \frac{2}{6}$
3. $\frac{1}{2} = \frac{4}{8}$
4. $\frac{2}{3} = \frac{4}{6}$
5. $\frac{1}{2} = \frac{3}{6}$
6. $\frac{1}{4} = \frac{2}{8}$

Multiplying Fractions

Multiplying fractions

1. $\frac{4}{6} \times \frac{2}{4} = \frac{1}{3}$
2. $\frac{4}{6} \times \frac{2}{7} = \frac{4}{21}$
3. $\frac{7}{8} \times \frac{1}{8} = \frac{7}{64}$
4. $\frac{7}{8} \times \frac{1}{7} = \frac{1}{8}$
5. $\frac{1}{7} \times \frac{7}{8} = \frac{1}{8}$
6. $\frac{7}{8} \times \frac{2}{8} = \frac{7}{32}$
7. $\frac{6}{8} \times \frac{5}{7} = \frac{15}{28}$
8. $\frac{3}{5} \times \frac{7}{8} = \frac{21}{40}$
9. $\frac{1}{3} \times \frac{4}{6} = \frac{2}{9}$
10. $\frac{4}{5} \times \frac{5}{7} = \frac{4}{7}$
11. $\frac{2}{7} \times \frac{2}{6} = \frac{2}{21}$
12. $\frac{4}{7} \times \frac{3}{6} = \frac{2}{7}$
13. $\frac{3}{7} \times \frac{1}{8} = \frac{3}{56}$
14. $\frac{2}{5} \times \frac{5}{8} = \frac{1}{4}$
15. $\frac{6}{8} \times \frac{6}{7} = \frac{9}{14}$
16. $\frac{5}{7} \times \frac{3}{7} = \frac{15}{49}$

Mixed Numbers

Adding mixed numbers

1. $2\frac{3}{8} + 3\frac{1}{8} = 5\frac{1}{2}$
2. $2\frac{3}{7} + 4\frac{4}{7} = 7$
3. $5\frac{1}{8} + 3\frac{1}{8} = 8\frac{1}{4}$
4. $1\frac{1}{3} + 4\frac{1}{3} = 5\frac{2}{3}$
5. $2\frac{4}{7} + 1\frac{4}{7} = 4\frac{1}{7}$
6. $1\frac{2}{7} + 5\frac{2}{7} = 6\frac{4}{7}$
7. $5\frac{4}{5} + 1\frac{2}{5} = 7\frac{1}{5}$
8. $3\frac{2}{7} + 1\frac{4}{7} = 4\frac{6}{7}$
9. $2\frac{3}{5} + 1\frac{1}{5} = 3\frac{4}{5}$
10. $3\frac{5}{6} + 3\frac{5}{6} = 7\frac{2}{3}$
11. $5\frac{2}{5} + 2\frac{1}{5} = 7\frac{3}{5}$
12. $5\frac{5}{6} + 5\frac{5}{6} = 11\frac{2}{3}$
13. $5\frac{3}{8} + 1\frac{1}{8} = 6\frac{1}{2}$
14. $1\frac{4}{5} + 1\frac{2}{5} = 3\frac{1}{5}$
15. $5\frac{1}{7} + 2\frac{4}{7} = 7\frac{5}{7}$
16. $1\frac{5}{8} + 2\frac{1}{8} = 3\frac{3}{4}$
17. $3\frac{6}{7} + 4\frac{1}{7} = 8$

Mixed Numbers (continued)

Adding mixed numbers (continued)

18. $4\frac{1}{4} + 4\frac{1}{4} = 8\frac{1}{2}$
19. $3\frac{3}{5} + 2\frac{2}{5} = 6$
20. $4\frac{1}{7} + 3\frac{4}{7} = 7\frac{5}{7}$
21. $5\frac{7}{8} + 5\frac{3}{8} = 11\frac{1}{4}$
22. $1\frac{4}{7} + 5\frac{1}{7} = 6\frac{5}{7}$
23. $5\frac{3}{5} + 5\frac{1}{5} = 10\frac{4}{5}$
24. $5\frac{6}{7} + 5\frac{5}{7} = 11\frac{4}{7}$
25. $4\frac{2}{7} + 2\frac{2}{7} = 6\frac{4}{7}$
26. $5\frac{2}{5} + 2\frac{4}{5} = 8\frac{1}{5}$
27. $3\frac{3}{7} + 1\frac{1}{7} = 4\frac{4}{7}$
28. $5\frac{6}{7} + 1\frac{2}{7} = 7\frac{1}{7}$
29. $1\frac{4}{7} + 1\frac{1}{7} = 2\frac{5}{7}$
30. $2\frac{6}{7} + 2\frac{3}{7} = 5\frac{2}{7}$
31. $3\frac{1}{6} + 1\frac{1}{6} = 4\frac{1}{3}$
32. $4\frac{1}{5} + 2\frac{3}{5} = 6\frac{4}{5}$
33. $2\frac{5}{6} + 1\frac{1}{6} = 4$
34. $2\frac{1}{5} + 4\frac{3}{5} = 6\frac{4}{5}$
35. $4\frac{3}{7} + 5\frac{5}{7} = 10\frac{1}{7}$
36. $1\frac{1}{4} + 5\frac{1}{4} = 6\frac{1}{2}$
37. $2\frac{3}{4} + 5\frac{3}{4} = 8\frac{1}{2}$
38. $1\frac{1}{5} + 5\frac{3}{5} = 6\frac{4}{5}$
39. $4\frac{4}{5} + 5\frac{2}{5} = 10\frac{1}{5}$
40. $5\frac{4}{7} + 5\frac{2}{7} = 10\frac{6}{7}$
41. $2\frac{4}{7} + 2\frac{2}{7} = 4\frac{6}{7}$
42. $2\frac{4}{5} + 1\frac{2}{5} = 4\frac{1}{5}$
43. $1\frac{3}{5} + 4\frac{1}{5} = 5\frac{4}{5}$

Decimals as Fractions

Decimals as fractions

1. $0.75 = \frac{3}{4}$
2. $0.375 = \frac{3}{8}$
3. $0.6 = \frac{3}{5}$
4. $0.625 = \frac{5}{8}$
5. $0.25 = \frac{1}{4}$
6. $0.125 = \frac{1}{8}$
7. $0.2 = \frac{1}{5}$
8. $0.8 = \frac{4}{5}$
9. $0.875 = \frac{7}{8}$
10. $0.5 = \frac{1}{2}$

Adding Unlike Fractions

Add and subtract fractions

1. $\frac{4}{5} + \frac{6}{7} = \frac{58}{35}$
2. $\frac{2}{4} - \frac{1}{3} = \frac{1}{6}$
3. $\frac{4}{7} + \frac{4}{5} = \frac{48}{35}$

Answer Key (2 of 3)

Adding Unlike Fractions (continued)

Add and subtract fractions (continued)

4. $\frac{3}{7} - \frac{1}{8} = \frac{17}{56}$
5. $\frac{1}{6} + \frac{5}{7} = \frac{37}{42}$
6. $\frac{2}{3} - \frac{3}{5} = \frac{1}{15}$
7. $\frac{5}{7} + \frac{6}{8} = \frac{41}{28}$
8. $\frac{3}{8} - \frac{1}{7} = \frac{13}{56}$
9. $\frac{2}{7} - \frac{2}{8} = \frac{1}{28}$
10. $\frac{3}{5} + \frac{2}{4} = \frac{11}{10}$
11. $\frac{6}{8} - \frac{2}{3} = \frac{1}{12}$
12. $\frac{4}{7} + \frac{3}{8} = \frac{53}{56}$
13. $\frac{6}{7} - \frac{4}{5} = \frac{2}{35}$
14. $\frac{4}{5} - \frac{3}{7} = \frac{13}{35}$
15. $\frac{1}{4} + \frac{5}{7} = \frac{27}{28}$
16. $\frac{4}{7} - \frac{3}{6} = \frac{1}{14}$
17. $\frac{3}{4} + \frac{6}{8} = \frac{3}{2}$
18. $\frac{4}{7} - \frac{1}{3} = \frac{5}{21}$
19. $\frac{5}{7} - \frac{2}{8} = \frac{13}{28}$
20. $\frac{5}{6} + \frac{2}{3} = \frac{3}{2}$
21. $\frac{5}{7} - \frac{1}{3} = \frac{8}{21}$
22. $\frac{1}{3} - \frac{1}{4} = \frac{1}{12}$
23. $\frac{2}{7} + \frac{3}{5} = \frac{31}{35}$
24. $\frac{2}{4} - \frac{1}{8} = \frac{3}{8}$
25. $\frac{3}{4} - \frac{2}{5} = \frac{7}{20}$
26. $\frac{1}{3} + \frac{2}{6} = \frac{2}{3}$
27. $\frac{7}{8} - \frac{5}{6} = \frac{1}{24}$
28. $\frac{2}{3} + \frac{1}{2} = \frac{7}{6}$
29. $\frac{3}{6} - \frac{1}{4} = \frac{1}{4}$
30. $\frac{2}{5} - \frac{1}{8} = \frac{11}{40}$
31. $\frac{2}{7} + \frac{2}{5} = \frac{24}{35}$
32. $\frac{3}{8} - \frac{1}{4} = \frac{1}{8}$
33. $\frac{2}{5} - \frac{1}{4} = \frac{3}{20}$
34. $\frac{4}{5} + \frac{5}{6} = \frac{49}{30}$
35. $\frac{3}{5} - \frac{4}{8} = \frac{1}{10}$
36. $\frac{1}{2} - \frac{3}{8} = \frac{1}{8}$
37. $\frac{6}{8} + \frac{1}{5} = \frac{19}{20}$
38. $\frac{2}{3} - \frac{2}{6} = \frac{1}{3}$
39. $\frac{6}{8} - \frac{5}{7} = \frac{1}{28}$
40. $\frac{4}{5} + \frac{5}{8} = \frac{57}{40}$
41. $\frac{5}{8} - \frac{1}{4} = \frac{3}{8}$
42. $\frac{6}{8} + \frac{1}{2} = \frac{5}{4}$
43. $\frac{2}{3} - \frac{5}{8} = \frac{1}{24}$

Comparing Fractions

Comparing fractions

1. $\frac{1}{6} < \frac{3}{4}$
2. $\frac{1}{5} < \frac{3}{6}$

Comparing Fractions (continued)

Comparing fractions (continued)

3. $\frac{2}{4} > \frac{1}{4}$
4. $\frac{3}{5} > \frac{2}{5}$
5. $\frac{1}{2} > \frac{2}{5}$
6. $\frac{4}{5} > \frac{1}{2}$
7. $\frac{2}{8} > \frac{1}{7}$
8. $\frac{2}{5} < \frac{4}{8}$
9. $\frac{3}{5} > \frac{3}{6}$
10. $\frac{2}{6} > \frac{1}{4}$
11. $\frac{3}{5} = \frac{3}{5}$
12. $\frac{1}{6} < \frac{4}{7}$
13. $\frac{6}{8} > \frac{1}{2}$
14. $\frac{1}{5} < \frac{2}{8}$
15. $\frac{4}{5} > \frac{2}{5}$
16. $\frac{1}{4} = \frac{2}{8}$
17. $\frac{2}{7} = \frac{2}{7}$
18. $\frac{2}{6} < \frac{2}{3}$
19. $\frac{3}{4} < \frac{6}{7}$
20. $\frac{3}{8} < \frac{2}{4}$
21. $\frac{2}{4} < \frac{2}{3}$
22. $\frac{2}{5} > \frac{2}{6}$
23. $\frac{1}{2} < \frac{7}{8}$
24. $\frac{4}{6} < \frac{7}{8}$
25. $\frac{5}{7} > \frac{2}{5}$
26. $\frac{6}{7} > \frac{5}{8}$
27. $\frac{5}{8} > \frac{1}{5}$
28. $\frac{5}{6} < \frac{6}{7}$
29. $\frac{3}{4} > \frac{5}{8}$
30. $\frac{2}{3} > \frac{2}{6}$
31. $\frac{3}{4} < \frac{4}{5}$
32. $\frac{3}{5} < \frac{7}{8}$
33. $\frac{7}{8} > \frac{4}{7}$
34. $\frac{2}{7} > \frac{1}{7}$
35. $\frac{5}{8} > \frac{4}{8}$
36. $\frac{1}{8} < \frac{2}{8}$
37. $\frac{1}{3} < \frac{6}{8}$
38. $\frac{2}{4} < \frac{4}{6}$
39. $\frac{7}{8} > \frac{3}{8}$
40. $\frac{1}{3} > \frac{2}{8}$
41. $\frac{3}{4} > \frac{2}{5}$
42. $\frac{3}{7} < \frac{2}{4}$
43. $\frac{5}{6} > \frac{4}{7}$
44. $\frac{6}{7} > \frac{1}{6}$
45. $\frac{6}{8} > \frac{2}{6}$
46. $\frac{4}{8} > \frac{3}{7}$
47. $\frac{2}{4} < \frac{4}{5}$

Answer Key (3 of 3)

Comparing Fractions (continued)

Comparing fractions (continued)

48. $\frac{3}{7} > \frac{1}{6}$

49. $\frac{3}{4} > \frac{4}{7}$

50. $\frac{1}{6} < \frac{2}{7}$

Solutions (1 of 3)

Equivalent Fractions

Equivalent fractions

1. $\frac{1}{2} = \frac{\quad}{4}$

$$\begin{array}{rclcl} \frac{1}{2} & = & \frac{?}{4} \\ 2 \times 2 & = & 4 \\ 1 \times 2 & = & 2 \\ \frac{1}{2} & = & \frac{2}{4} \end{array}$$

$1/2$ and the answer have to be the SAME amount — so nothing may be added to either half of it. The one move that leaves a fraction's value alone is cutting every piece into the same number of smaller pieces.

Halves into quarters: $4 \div 2 = 2$, so each piece is being cut into 2. There are 2 times as many pieces, and each is 2 times smaller.

The top is a COUNT of those pieces, so it is cut the same way: $1 \times 2 = 2$. $1/2 = 2/4$ — the same amount of cake, cut differently.

2. $\frac{1}{3} = \frac{\quad}{6}$

$$\begin{array}{rclcl} \frac{1}{3} & = & \frac{?}{6} \\ 3 \times 2 & = & 6 \\ 1 \times 2 & = & 2 \\ \frac{1}{3} & = & \frac{2}{6} \end{array}$$

$1/3$ and the answer have to be the SAME amount — so nothing may be added to either half of it. The one move that leaves a fraction's value alone is cutting every piece into the same number of smaller pieces.

Thirds into sixths: $6 \div 3 = 2$, so each piece is being cut into 2. There are 2 times as many pieces, and each is 2 times smaller.

The top is a COUNT of those pieces, so it is cut the same way: $1 \times 2 = 2$. $1/3 = 2/6$ — the same amount of cake, cut differently.

Multiplying Fractions

Multiplying fractions

1. $\frac{4}{6} \times \frac{2}{4} = \text{—}$

$$\begin{array}{l} \frac{4}{6} \times \frac{2}{4} \\ \text{top: } 4 \times 2 = 8 \\ \frac{4}{6} \times \frac{2}{4} = \frac{8}{24} \\ \frac{8}{24} = \frac{1}{3} \end{array}$$

Multiplying, not adding — so no common denominator, and nothing has to be cut into matching pieces first. Tops with tops, bottoms with bottoms.

Multiply the two top numbers: $4 \times 2 = 8$.

Multiply the two bottom numbers: $6 \times 4 = 24$.

$8/24$ simplifies to $1/3$.

Solutions (2 of 3)

Multiplying Fractions (continued)

Multiplying fractions (continued)

2. $\frac{4}{6} \times \frac{2}{7} = \text{—}$

$$\begin{array}{r} \frac{4}{6} \times \frac{2}{7} \\ \text{top: } 4 \times 2 = 8 \\ \frac{4}{6} \times \frac{2}{7} = \frac{8}{42} \\ \frac{8}{42} = \frac{4}{21} \end{array}$$

Multiplying, not adding — so no common denominator, and nothing has to be cut into matching pieces first. Tops with tops, bottoms with bottoms.

Multiply the two top numbers: $4 \times 2 = 8$.

Multiply the two bottom numbers: $6 \times 7 = 42$.

$8/42$ simplifies to $4/21$.

Mixed Numbers

Adding mixed numbers

1. $2\frac{3}{8} + 3\frac{1}{8} = \text{—}$

$$\begin{array}{r} \frac{3}{8} + \frac{1}{8} = \frac{4}{8} \\ 2 + 3 = 5 \\ = 5\frac{1}{2} \end{array}$$

A mixed number is a whole and a fraction stuck together. Deal with them separately — wholes with wholes, eighths with eighths.

The fractions go together first: $3/8 + 1/8 = 4/8$.

Then the wholes: $2 + 3 = 5$.

$4/8$ is the same amount as $1/2$ written in bigger pieces.

So the answer is $5\frac{1}{2}$.

2. $2\frac{3}{7} + 4\frac{4}{7} = \text{—}$

$$\begin{array}{r} \frac{3}{7} + \frac{4}{7} = \frac{7}{7} \\ 2 + 4 = 6 \\ = 7 \end{array}$$

A mixed number is a whole and a fraction stuck together. Deal with them separately — wholes with wholes, sevenths with sevenths.

The fractions go together first: $3/7 + 4/7 = 7/7$.

Then the wholes: $2 + 4 = 6$.

But $7/7$ is exactly one whole — $7/7$ is 1 — so nothing is left over as a fraction: $6 + 1 = 7$.

So the answer is 7.

Solutions (3 of 3)

Decimals as Fractions

Decimals as fractions

1. **0.75** → —

$$0.75 = \frac{75}{100}$$

$$75 \div 25 = 3$$

$$100 \div 25 = 4$$

$$\frac{75}{100} = \frac{3}{4}$$

A decimal already IS a fraction — 0.75 is 75 hundredths. That is what the places after the point mean.

25 goes into both 75 and 100, so take it off both: $75 \div 25 = 3$ and $100 \div 25 = 4$. $75/100$ and $3/4$ are the same amount, and 4 is as far down as it goes.

2. **0.375** → —

$$0.375 = \frac{375}{1000}$$

$$375 \div 125 = 3$$

$$1000 \div 125 = 8$$

$$\frac{375}{1000} = \frac{3}{8}$$

A decimal already IS a fraction — 0.375 is 375 thousandths. That is what the places after the point mean.

125 goes into both 375 and 1000, so take it off both: $375 \div 125 = 3$ and $1000 \div 125 = 8$. $375/1000$ and $3/8$ are the same amount, and 8 is as far down as it goes.