



Answer Key

GRADE 5 • MODULE 3

Addition and Subtraction of Fractions

Lesson 1

Sprint

Side A

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

Side B

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

Problem Set

- Number line marked 0 and 1 on top and $\frac{0}{2}, \frac{1}{2}, \frac{2}{2}$ on the bottom; $\frac{2}{4}$ shaded; $\frac{3}{6}$ shaded, $\frac{1}{2} = \frac{1 \times 3}{2 \times 3} = \frac{3}{6}$; $\frac{4}{8}$ shaded, $\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{4}{8}$; $\frac{5}{10}$ shaded, $\frac{1}{2} = \frac{1 \times 5}{2 \times 5} = \frac{5}{10}$
- Number line marked 0 and 1 on top and $\frac{0}{3}, \frac{1}{3}, \frac{2}{3}, \frac{3}{3}$ on the bottom; $\frac{2}{6}$ shaded, $\frac{1}{3} = \frac{1 \times 2}{3 \times 2} = \frac{2}{6}$; $\frac{3}{9}$ shaded, $\frac{1}{3} = \frac{1 \times 3}{3 \times 3} = \frac{3}{9}$; $\frac{4}{12}$ shaded, $\frac{1}{3} = \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$; $\frac{5}{15}$ shaded, $\frac{1}{3} = \frac{1 \times 5}{3 \times 5} = \frac{5}{15}$
- Number line marked 0 and 1 on top and $\frac{0}{4}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}, \frac{4}{4}$ on the bottom; $\frac{6}{8}$ shaded, $\frac{3}{4} = \frac{3 \times 2}{4 \times 2} = \frac{6}{8}$; $\frac{9}{12}$ shaded, $\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$; $\frac{12}{16}$ shaded, $\frac{3}{4} = \frac{3 \times 4}{4 \times 4} = \frac{12}{16}$; $\frac{15}{20}$ shaded, $\frac{3}{4} = \frac{3 \times 5}{4 \times 5} = \frac{15}{20}$
- Number line marked 0 and 1 on top and $\frac{0}{5}, \frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}, \frac{5}{5}, \frac{6}{5}, \frac{7}{5}$ on the bottom; examples may vary.

Exit Ticket

Number line marked 0 and 1 on top and $\frac{0}{6}, \frac{1}{6}, \frac{2}{6}, \frac{3}{6}, \frac{4}{6}, \frac{5}{6}, \frac{6}{6}$ on the bottom; $\frac{2}{12}$ shaded; $\frac{3}{18}$ shaded, $\frac{1}{6} = \frac{1 \times 3}{6 \times 3} = \frac{3}{18}$; $\frac{4}{24}$ shaded, $\frac{1}{6} = \frac{1 \times 4}{6 \times 4} = \frac{4}{24}$

Homework

- Number line marked 0 and 1 on top and $\frac{0}{3}, \frac{1}{3}, \frac{2}{3}, \frac{3}{3}$ on the bottom; $\frac{2}{6}$ shaded; $\frac{3}{9}$ shaded, $\frac{1}{3} = \frac{1 \times 3}{3 \times 3} = \frac{3}{9}$; $\frac{4}{12}$ shaded, $\frac{1}{3} = \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$; $\frac{5}{15}$ shaded, $\frac{1}{3} = \frac{1 \times 5}{3 \times 5} = \frac{5}{15}$
- Number line marked 0 and 1 on top and $\frac{0}{4}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}, \frac{4}{4}$ on the bottom; $\frac{2}{8}$ shaded, $\frac{1}{4} = \frac{1 \times 2}{4 \times 2} = \frac{2}{8}$; $\frac{3}{12}$ shaded, $\frac{1}{4} = \frac{1 \times 3}{4 \times 3} = \frac{3}{12}$; $\frac{4}{16}$ shaded, $\frac{1}{4} = \frac{1 \times 4}{4 \times 4} = \frac{4}{16}$; $\frac{5}{20}$ shaded, $\frac{1}{4} = \frac{1 \times 5}{4 \times 5} = \frac{5}{20}$
- Number line marked 0 and 1 on top and $\frac{0}{5}, \frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}, \frac{5}{5}$ on the bottom; $\frac{8}{10}$ shaded, $\frac{4}{5} = \frac{4 \times 2}{5 \times 2} = \frac{8}{10}$; $\frac{12}{15}$ shaded, $\frac{4}{5} = \frac{4 \times 3}{5 \times 3} = \frac{12}{15}$; $\frac{16}{20}$ shaded, $\frac{4}{5} = \frac{4 \times 4}{5 \times 4} = \frac{16}{20}$; $\frac{20}{25}$ shaded, $\frac{4}{5} = \frac{4 \times 5}{5 \times 5} = \frac{20}{25}$
- Number line marked 0 and 1 on top and $\frac{0}{8}, \frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{4}{8}, \frac{5}{8}, \frac{6}{8}, \frac{7}{8}, \frac{8}{8}$ on the bottom; examples may vary.

Lesson 2

Sprint

Side A

- | | | | |
|-------|--------|--------|--------|
| 1. 2 | 12. 12 | 23. 4 | 34. 40 |
| 2. 10 | 13. 12 | 24. 8 | 35. 54 |
| 3. 4 | 14. 1 | 25. 2 | 36. 5 |
| 4. 6 | 15. 3 | 26. 4 | 37. 56 |
| 5. 8 | 16. 5 | 27. 15 | 38. 4 |
| 6. 6 | 17. 2 | 28. 35 | 39. 7 |
| 7. 4 | 18. 4 | 29. 4 | 40. 9 |
| 8. 9 | 19. 1 | 30. 4 | 41. 72 |
| 9. 6 | 20. 2 | 31. 42 | 42. 84 |
| 10. 2 | 21. 4 | 32. 8 | 43. 5 |
| 11. 6 | 22. 3 | 33. 9 | 44. 6 |

Side B

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

Problem Set

- $\frac{3}{5}$; number line drawn
 - $\frac{3}{3}$; number line drawn
 - $\frac{9}{10}$; number line drawn
 - $1\frac{3}{4}$; number line drawn
- Answers will vary, number line drawn
 - Answers will vary.
 - Answers will vary.
 - Answers will vary.
- $1\frac{2}{7}$
 - $4\frac{1}{2}$
 - $4\frac{4}{7}$; number line drawn
 - $2\frac{6}{9}$; number line drawn
- $2\frac{4}{8}$ yd or $2\frac{1}{2}$ yd; number line drawn

Exit Ticket

- $\frac{7}{5}$; number line drawn
 - $\frac{8}{3}$; number line drawn
- Answers will vary.
 - Answers will vary; number line drawn

Homework

- $\frac{5}{9}$; number line drawn
 - $\frac{4}{4}$; number line drawn
 - $\frac{6}{7}$; number line drawn
 - $\frac{8}{5}$; number line drawn
- Answers will vary; number line drawn
 - Answers will vary.
 - Answers will vary.
 - Answers will vary.
- $1\frac{4}{5}$
 - $3\frac{1}{2}$
 - $3\frac{4}{7}$; number line drawn
 - $2\frac{3}{9}$ or $2\frac{1}{3}$; number line drawn
- $4\frac{5}{10}$ or $4\frac{1}{2}$; number line drawn

Lesson 3

Sprint

Side A

- | | | | |
|-------|--------|--------|--------|
| 1. 2 | 12. 12 | 23. 4 | 34. 40 |
| 2. 10 | 13. 12 | 24. 8 | 35. 54 |
| 3. 4 | 14. 1 | 25. 2 | 36. 5 |
| 4. 6 | 15. 3 | 26. 4 | 37. 56 |
| 5. 8 | 16. 5 | 27. 15 | 38. 4 |
| 6. 6 | 17. 2 | 28. 35 | 39. 7 |
| 7. 4 | 18. 4 | 29. 4 | 40. 9 |
| 8. 9 | 19. 1 | 30. 4 | 41. 72 |
| 9. 6 | 20. 2 | 31. 42 | 42. 84 |
| 10. 2 | 21. 4 | 32. 8 | 43. 5 |
| 11. 6 | 22. 3 | 33. 9 | 44. 6 |

Side B

- | | | | |
|-------|-------|--------|--------|
| 1. 10 | 12. 3 | 23. 12 | 34. 64 |
| 2. 4 | 13. 9 | 24. 12 | 35. 45 |
| 3. 6 | 14. 2 | 25. 3 | 36. 9 |
| 4. 8 | 15. 1 | 26. 3 | 37. 48 |
| 5. 4 | 16. 1 | 27. 25 | 38. 9 |
| 6. 2 | 17. 5 | 28. 28 | 39. 1 |
| 7. 6 | 18. 5 | 29. 3 | 40. 5 |
| 8. 3 | 19. 3 | 30. 5 | 41. 12 |
| 9. 9 | 20. 3 | 31. 35 | 42. 36 |
| 10. 8 | 21. 3 | 32. 9 | 43. 4 |
| 11. 8 | 22. 4 | 33. 8 | 44. 7 |

Problem Set

1.
 - a. Accurate picture drawn; $\frac{5}{6}$
 - b. Accurate picture drawn; $\frac{8}{15}$
 - c. Accurate picture drawn; $\frac{7}{12}$
 - d. Accurate picture drawn; $\frac{10}{21}$
 - e. Accurate picture drawn; $\frac{19}{20}$
 - f. Accurate picture drawn; $\frac{20}{21}$
2. $\frac{1}{2}$ yd
3. $\frac{11}{12}$ qt
4. $\frac{13}{20}$; $\frac{7}{20}$

Exit Ticket

1. Accurate picture drawn; $\frac{7}{10}$
2. $\frac{13}{20}$ hr; 39 min

Homework

1.
 - a. Accurate picture drawn; $\frac{7}{12}$
 - b. Accurate picture drawn; $\frac{9}{20}$
 - c. Accurate picture drawn; $\frac{5}{12}$
 - d. Accurate picture drawn; $\frac{14}{45}$
 - e. Accurate picture drawn; $\frac{13}{20}$
 - f. Accurate picture drawn; $1\frac{1}{35}$
2. $\frac{22}{24}$ or $\frac{11}{12}$ mi
3. $\frac{19}{24}$; $\frac{5}{24}$
4. $\frac{17}{30}$; $\frac{13}{30}$

Lesson 4

Problem Set

- Accurate picture drawn; $1\frac{1}{6}$
 - Accurate picture drawn; $1\frac{5}{12}$
 - Accurate picture drawn; $1\frac{1}{10}$
 - Accurate picture drawn; $1\frac{3}{14}$
 - Accurate picture drawn; $1\frac{7}{12}$
 - Accurate picture drawn; $1\frac{2}{21}$
- $1\frac{3}{20}$ lb
- $1\frac{9}{20}$ hr; $\frac{11}{20}$ hr

Exit Ticket

- Accurate picture drawn; $1\frac{1}{12}$
- $1\frac{11}{20}$ L

Homework

- Accurate picture drawn; $1\frac{1}{12}$
 - Accurate picture drawn; $1\frac{5}{12}$
 - Accurate picture drawn; $\frac{14}{15}$
 - Accurate picture drawn; $1\frac{1}{3}$
 - Accurate picture drawn; $1\frac{1}{2}$
 - Accurate picture drawn; $1\frac{19}{21}$
- $1\frac{5}{12}$ L
- $1\frac{3}{8}$

Lesson 5

Sprint

Side A

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

2. $2\frac{1}{2}$

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

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

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

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

7. $3\frac{2}{3}$

8. $3\frac{1}{3}$

9. $1\frac{1}{3}$

10. $1\frac{3}{4}$

11. $1\frac{1}{4}$

12. $2\frac{1}{4}$

13. $2\frac{3}{4}$

14. $3\frac{1}{4}$

15. $1\frac{9}{10}$

16. $2\frac{1}{10}$

17. $1\frac{3}{10}$

18. $3\frac{7}{10}$

19. $2\frac{4}{5}$

20. $2\frac{3}{5}$

21. $2\frac{1}{5}$

22. $2\frac{2}{5}$

23. $2\frac{7}{8}$

24. $2\frac{5}{8}$

25. $2\frac{3}{8}$

26. $2\frac{1}{8}$

27. $1\frac{1}{8}$

28. $3\frac{6}{7}$

29. $2\frac{1}{7}$

30. $1\frac{4}{7}$

31. $3\frac{3}{7}$

32. $2\frac{2}{7}$

33. $3\frac{1}{4}$

34. $1\frac{3}{8}$

35. $2\frac{7}{10}$

36. $3\frac{3}{5}$

37. $3\frac{4}{7}$

38. $2\frac{3}{10}$

39. $2\frac{1}{2}$

40. $3\frac{3}{4}$

41. $1\frac{1}{4}$

42. $3\frac{5}{6}$

43. $2\frac{2}{3}$

44. $1\frac{1}{3}$

Side B

1. $\frac{1}{2}$

2. $1\frac{1}{2}$

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

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

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

6. $1\frac{3}{4}$

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

8. $3\frac{1}{4}$

9. $1\frac{1}{4}$

10. $1\frac{2}{3}$

11. $1\frac{1}{3}$

12. $2\frac{1}{3}$

13. $2\frac{2}{3}$

14. $3\frac{1}{3}$

15. $2\frac{9}{10}$

16. $1\frac{1}{10}$

17. $3\frac{3}{10}$

18. $2\frac{7}{10}$

19. $1\frac{4}{5}$

20. $1\frac{3}{5}$

21. $1\frac{1}{5}$

22. $2\frac{2}{5}$

23. $1\frac{7}{8}$

24. $1\frac{5}{8}$

25. $1\frac{3}{8}$

26. $1\frac{1}{8}$

27. $3\frac{1}{8}$

28. $2\frac{6}{7}$

29. $1\frac{1}{7}$

30. $3\frac{4}{7}$

31. $2\frac{3}{7}$

32. $1\frac{2}{7}$

33. $2\frac{1}{4}$

34. $3\frac{3}{8}$

35. $1\frac{7}{10}$

36. $2\frac{3}{5}$

37. $2\frac{4}{7}$

38. $1\frac{3}{10}$

39. $1\frac{1}{2}$

40. $2\frac{1}{4}$

41. $3\frac{3}{4}$

42. $2\frac{1}{6}$

43. $1\frac{1}{3}$

44. $3\frac{2}{3}$

Problem Set

1.
 - a. Accurate picture drawn; $\frac{1}{12}$
 - b. Accurate picture drawn; $\frac{1}{6}$
 - c. Accurate picture drawn; $\frac{7}{12}$
 - d. Accurate picture drawn; $\frac{11}{21}$
 - e. Accurate picture drawn; $\frac{3}{8}$
 - f. Accurate picture drawn; $\frac{13}{28}$
2. $\frac{7}{15}$ L
3. Answers will vary.

Exit Ticket

1. Accurate picture drawn; $\frac{5}{14}$
2. Accurate picture drawn; $\frac{1}{10}$

Homework

1. Pictures will vary; $\frac{5}{12}$
2.
 - a. Accurate picture drawn; $\frac{1}{2}$
 - b. Accurate picture drawn; $\frac{1}{6}$
 - c. Accurate picture drawn; $\frac{7}{12}$
 - d. Accurate picture drawn; $\frac{3}{10}$
 - e. Accurate picture drawn; $\frac{4}{15}$
 - f. Accurate picture drawn; $\frac{1}{21}$
3. $\frac{5}{8}$ lb
4. No; $\frac{6}{35}$ kg

Lesson 6

Problem Set

- Accurate picture drawn; $\frac{11}{12}$
 - Accurate picture drawn; $\frac{13}{15}$
 - Accurate picture drawn; $\frac{7}{8}$
 - Accurate picture drawn; $\frac{9}{10}$
 - Accurate picture drawn; $\frac{20}{21}$
 - Accurate picture drawn; $1\frac{1}{15}$
- $\frac{5}{12}$ hr; 25 min
- Yes; answers will vary.

Exit Ticket

- Accurate picture drawn; $\frac{7}{10}$
- Accurate picture drawn; $\frac{1}{2}$

Homework

- Accurate picture drawn; $\frac{1}{6}$
 - Accurate picture drawn; $\frac{2}{3}$
 - Accurate picture drawn; $\frac{13}{21}$
 - Accurate picture drawn; $\frac{21}{40}$
 - Accurate picture drawn; $\frac{13}{20}$
 - Accurate picture drawn; $\frac{23}{24}$
 - Accurate picture drawn; $\frac{15}{28}$
 - Accurate picture drawn; $\frac{7}{12}$
- $\frac{7}{8}$ m
- $\frac{17}{24}$ kg

Lesson 7

Sprint

Side A

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

Side B

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

Problem Set

1. $\frac{2}{15}$
2. $\frac{1}{24}$
3. $\frac{9}{15}$ oz
4. Jim; $\frac{1}{12}$ gal
5. $\frac{1}{8}$

Exit Ticket

Mr. Pham; $\frac{13}{28}$

Homework

1. $\frac{1}{2}$
2. $\frac{2}{21}$
3. $\frac{7}{10}$
4. $\frac{1}{4}$
5. $1\frac{1}{15}$ m

Lesson 8

Problem Set

- $3\frac{1}{5}$
 - $\frac{5}{8}$
 - 8
 - $1\frac{5}{7}$
 - $17\frac{3}{4}$
 - $1\frac{1}{3}$
 - $32\frac{2}{3}$
 - $79\frac{1}{8}$
- $6\frac{2}{3}$ min
- $6\frac{1}{2}$ hr
- Answers will vary.

Exit Ticket

- $6\frac{7}{8}$
 - $1\frac{1}{4}$
 - $11\frac{3}{8}$
 - $1\frac{4}{7}$

Homework

- $4\frac{1}{4}$
 - $\frac{3}{8}$
 - 8
 - $1\frac{2}{7}$
 - $15\frac{4}{5}$
 - $2\frac{1}{4}$
 - $34\frac{5}{6}$
 - $49\frac{5}{8}$
- $5\frac{3}{8}$ m
- $5\frac{1}{2}$ mi
- Answers will vary.

Lesson 9

Sprint

Side A

- | | | | |
|------------|-------------|-------------|------------|
| 1. $2/5$ | 12. $4/4$ | 23. $3/9$ | 34. $9/12$ |
| 2. $6/10$ | 13. $2/12$ | 24. $5/9$ | 35. $6/8$ |
| 3. $8/10$ | 14. $2/3$ | 25. $0/9$ | 36. $5/12$ |
| 4. $4/5$ | 15. $1/12$ | 26. $4/4$ | 37. $4/5$ |
| 5. $1/10$ | 16. $11/12$ | 27. $6/8$ | 38. $4/5$ |
| 6. $2/5$ | 17. $11/12$ | 28. $11/12$ | 39. $3/6$ |
| 7. $6/10$ | 18. $3/6$ | 29. $7/9$ | 40. $2/12$ |
| 8. $3/5$ | 19. $3/6$ | 30. $3/10$ | 41. $5/15$ |
| 9. $2/4$ | 20. $3/6$ | 31. $1/5$ | 42. $4/15$ |
| 10. $3/4$ | 21. $3/3$ | 32. $3/6$ | 43. $9/15$ |
| 11. $1/12$ | 22. $3/12$ | 33. $7/12$ | 44. $6/15$ |

Side B

- | | | | |
|------------|------------|-------------|------------|
| 1. $2/2$ | 12. $3/3$ | 23. $9/12$ | 34. $3/3$ |
| 2. $3/8$ | 13. $2/9$ | 24. $10/12$ | 35. $3/4$ |
| 3. $5/8$ | 14. $2/9$ | 25. $0/12$ | 36. $5/12$ |
| 4. $1/12$ | 15. $4/9$ | 26. $7/10$ | 37. $3/5$ |
| 5. $7/12$ | 16. $4/12$ | 27. $8/10$ | 38. $0/5$ |
| 6. $7/8$ | 17. $1/12$ | 28. $6/6$ | 39. $4/12$ |
| 7. $1/8$ | 18. $3/12$ | 29. $9/12$ | 40. $8/8$ |
| 8. $6/8$ | 19. $2/10$ | 30. $10/10$ | 41. $6/8$ |
| 9. $2/4$ | 20. $6/8$ | 31. $6/10$ | 42. $1/10$ |
| 10. $0/6$ | 21. $3/10$ | 32. $2/6$ | 43. $9/10$ |
| 11. $6/98$ | 22. $1/10$ | 33. $1/12$ | 44. $4/12$ |

Problem Set

- $\frac{25}{28}$
 - $1\frac{3}{8}$
 - $\frac{45}{56}$
 - $1\frac{1}{63}$
 - $\frac{13}{15}$
 - $1\frac{7}{12}$
 - $\frac{25}{33}$
 - $1\frac{17}{20}$
- Answers will vary.
- $1\frac{5}{8}$ gal
- $1\frac{13}{20}$ kg; $\frac{17}{20}$ kg

Exit Ticket

- $\frac{22}{24}$ or $\frac{11}{12}$
- $1\frac{9}{10}$

Homework

- $\frac{14}{15}$
 - $\frac{38}{55}$
 - $1\frac{1}{18}$
 - $\frac{3}{4}$
 - $1\frac{11}{15}$
 - $1\frac{5}{24}$
 - $2\frac{1}{12}$ or $\frac{25}{12}$
 - $2\frac{1}{12}$
- $1\frac{5}{12}$
- $2\frac{17}{20}$ kg
- $\frac{9}{40}$

Lesson 10

Sprint

Side A

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

Side B

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

Problem Set

- $3\frac{9}{20}$
 - $4\frac{3}{20}$
 - $3\frac{8}{15}$
 - $6\frac{1}{15}$
 - $8\frac{1}{21}$
 - $8\frac{11}{21}$
 - $18\frac{33}{40}$
 - $21\frac{1}{40}$
- $8\frac{1}{4}$ mi
- $6\frac{1}{12}$ gal
- No; answers will vary.

Exit Ticket

- $4\frac{5}{6}$
- $8\frac{13}{28}$

Homework

- $3\frac{7}{10}$
 - $4\frac{1}{10}$
 - $4\frac{8}{15}$
 - $5\frac{4}{15}$
 - $6\frac{19}{21}$
 - $8\frac{8}{21}$
 - $19\frac{23}{40}$
 - $20\frac{31}{40}$
- $8\frac{1}{2}$ hr
- $6\frac{1}{12}$ m
- Answers will vary.

Lesson 11

Problem Set

- $\frac{1}{6}$
 - $\frac{11}{30}$
 - $\frac{1}{8}$
 - $1\frac{1}{40}$
 - $1\frac{2}{15}$
 - $1\frac{2}{15}$
 - $3\frac{4}{21}$
 - Number lines drawn
- 24 shown as denominator; answers will vary.
- $\frac{11}{12}$ L; $\frac{1}{4}$ L
- $2\frac{1}{14}$ kg

Exit Ticket

- $\frac{9}{20}$
- $2\frac{1}{6}$

Homework

- $\frac{3}{10}$
 - $\frac{13}{24}$
 - $\frac{1}{10}$
 - $1\frac{1}{6}$
 - $1\frac{1}{20}$
 - $2\frac{4}{21}$
 - $10\frac{1}{8}$
 - $12\frac{7}{24}$
- $\frac{14}{24}$ or $\frac{7}{12}$
- $2\frac{3}{14}$ yd
- $\frac{2}{15}$
- $3\frac{1}{6}$ gal

Lesson 12

Sprint

Side A

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

Side B

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

Problem Set

- $\frac{19}{20}$
 - $\frac{13}{20}$
 - $2\frac{13}{15}$
 - $1\frac{11}{15}$
 - $\frac{20}{21}$
 - $6\frac{17}{21}$
 - $11\frac{5}{6}$
 - $14\frac{23}{24}$
- No; number line drawn correctly
- $4\frac{17}{20}$ gal
- $2\frac{7}{12}$ hr

Exit Ticket

- $4\frac{1}{6}$
- $2\frac{11}{12}$

Homework

- $\frac{11}{12}$
 - $\frac{11}{12}$
 - $1\frac{19}{20}$
 - $1\frac{17}{20}$
 - $\frac{20}{21}$
 - $4\frac{20}{21}$
 - $12\frac{7}{8}$
 - $14\frac{23}{40}$
- Yes; number line drawn correctly
- $4\frac{13}{20}$ gal
- $2\frac{7}{12}$ ft

Lesson 13

Problem Set

- Less than 1
 - Greater than 1
 - Less than 1
 - Greater than 1
- Greater than $\frac{1}{2}$
 - Less than $\frac{1}{2}$
 - Less than $\frac{1}{2}$
 - Greater than $\frac{1}{2}$
- $>$
 - $<$
 - $=$
 - $<$
- No; answers will vary.
- No
- No

Exit Ticket

- Less than 1
 - Greater than 1
 - Less than $\frac{1}{2}$
 - Greater than $\frac{1}{2}$
- $<$

Homework

- Less than 1
 - Greater than 1
 - Less than 1
 - Less than 1
- Less than $\frac{1}{2}$
 - Greater than $\frac{1}{2}$
 - Less than $\frac{1}{2}$
 - Greater than $\frac{1}{2}$
- $<$
 - $<$
 - $>$
 - $<$
- No; answers will vary.
- No
- Yes

Lesson 14

Sprint

Side A

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

Side B

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

Problem Set

1.
 - a. 5
 - b. $2\frac{1}{4}$
 - c. 1
 - d. 0
2.
 - a. $4\frac{1}{15}$
 - b. $\frac{3}{40}$
 - c. 1
 - d. $58\frac{11}{12}$
 - e. $3\frac{2}{35}$
 - f. 4.3
3. $31\frac{1}{8}$ lb
4. $18\frac{9}{20}$ kg

Exit Ticket

1. $5\frac{7}{12}$
2. $5\frac{1}{30}$

Homework

1.
 - a. 3
 - b. $3\frac{1}{4}$
 - c. $1\frac{6}{7}$
 - d. 0
2.
 - a. $4\frac{27}{28}$
 - b. $2\frac{11}{12}$
 - c. 1
 - d. $37\frac{7}{8}$
 - e. $2\frac{19}{30}$
 - f. $18\frac{1}{5}$
3. $9\frac{1}{6}$ yd
4. $3\frac{19}{36}$ lb

Lesson 15

Sprint

Side A

- | | | | |
|--------------------|--------------------|--------------------|---------------------|
| 1. $\frac{1}{4}$ | 12. $\frac{3}{10}$ | 23. $\frac{1}{8}$ | 34. $\frac{5}{12}$ |
| 2. $\frac{1}{2}$ | 13. $\frac{3}{10}$ | 24. $\frac{1}{4}$ | 35. $\frac{2}{3}$ |
| 3. $\frac{1}{2}$ | 14. $\frac{3}{5}$ | 25. $\frac{1}{4}$ | 36. $\frac{7}{12}$ |
| 4. $\frac{1}{2}$ | 15. $\frac{1}{10}$ | 26. $\frac{1}{4}$ | 37. $\frac{1}{8}$ |
| 5. $\frac{1}{10}$ | 16. $\frac{4}{5}$ | 27. $\frac{1}{6}$ | 38. $\frac{1}{8}$ |
| 6. $\frac{3}{10}$ | 17. $\frac{1}{9}$ | 28. $\frac{1}{6}$ | 39. $\frac{7}{12}$ |
| 7. $\frac{5}{12}$ | 18. $\frac{2}{9}$ | 29. $\frac{1}{6}$ | 40. $\frac{5}{12}$ |
| 8. $\frac{1}{2}$ | 19. $\frac{1}{3}$ | 30. $\frac{2}{3}$ | 41. $\frac{6}{7}$ |
| 9. $\frac{1}{2}$ | 20. $\frac{1}{3}$ | 31. $\frac{2}{9}$ | 42. $\frac{62}{72}$ |
| 10. $\frac{1}{5}$ | 21. $\frac{1}{12}$ | 32. $\frac{4}{9}$ | 43. $\frac{8}{9}$ |
| 11. $\frac{1}{10}$ | 22. $\frac{1}{3}$ | 33. $\frac{1}{12}$ | 44. $\frac{11}{12}$ |

Side B

- | | | | |
|-------------------|--------------------|--------------------|---------------------|
| 1. $\frac{1}{6}$ | 12. $\frac{2}{5}$ | 23. $\frac{1}{4}$ | 34. $\frac{5}{12}$ |
| 2. $\frac{1}{2}$ | 13. $\frac{1}{10}$ | 24. $\frac{1}{4}$ | 35. $\frac{3}{4}$ |
| 3. $\frac{1}{8}$ | 14. $\frac{3}{5}$ | 25. $\frac{1}{12}$ | 36. $\frac{7}{12}$ |
| 4. $\frac{3}{8}$ | 15. $\frac{3}{10}$ | 26. $\frac{1}{4}$ | 37. $\frac{1}{12}$ |
| 5. $\frac{1}{2}$ | 16. $\frac{7}{10}$ | 27. $\frac{1}{12}$ | 38. $\frac{5}{6}$ |
| 6. $\frac{1}{2}$ | 17. $\frac{1}{6}$ | 28. $\frac{1}{6}$ | 39. $\frac{5}{8}$ |
| 7. $\frac{1}{12}$ | 18. $\frac{1}{3}$ | 29. $\frac{1}{9}$ | 40. $\frac{3}{8}$ |
| 8. $\frac{1}{2}$ | 19. $\frac{1}{3}$ | 30. $\frac{2}{3}$ | 41. $\frac{34}{42}$ |
| 9. $\frac{1}{10}$ | 20. $\frac{1}{3}$ | 31. $\frac{5}{9}$ | 42. $\frac{7}{8}$ |
| 10. $\frac{1}{5}$ | 21. $\frac{1}{3}$ | 32. $\frac{2}{3}$ | 43. $\frac{47}{54}$ |
| 11. $\frac{2}{5}$ | 22. $\frac{1}{3}$ | 33. $\frac{1}{2}$ | 44. $\frac{65}{72}$ |

Problem Set

1. 31 min 35 sec
2. $4\frac{9}{20}$ kg
3. $\frac{1}{40}$ oz
4. 6 min 27 sec
5. $\frac{11}{20}$ min

Exit Ticket

$1\frac{9}{10}$ dollars; \$1.90

Homework

1. $\frac{7}{12}$ lb
2. $1\frac{4}{5}$ kg
3. $28\frac{2}{3}$ mi
4. $2\frac{11}{24}$ lb
5. $2\frac{1}{3}$ hr

Lesson 16

Problem Set

- Accurate drawing shown
 - Accurate drawing shown
 - Accurate drawing shown
 - Accurate drawing shown
- $1\frac{3}{7}$ or $\frac{10}{7}$ ft shorter
- $1\frac{1}{7}$ or $\frac{8}{7}$ ft

Exit Ticket

- Accurate drawing shown
- Accurate drawing shown
- Accurate drawing shown

Homework

- Accurate drawing shown
- Accurate drawing shown
- Accurate drawing shown; $\frac{1}{10}$; 21 mi
- Answers will vary.