



Answer Key

GRADE 4 • MODULE 6

Decimal Fractions

Lesson 1

Sprint

Side A

1. 2	12. 12	23. 5	34. 200
2. 3	13. 5	24. 85	35. 24
3. 4	14. 15	25. 185	36. 240
4. 8	15. 8	26. 7	37. 400
5. 5	16. 18	27. 27	38. 69
6. 9	17. 28	28. 427	39. 690
7. 7	18. 38	29. 9	40. 900
8. 6	19. 68	30. 59	41. 94
9. 1	20. 64	31. 759	42. 528
10. 10	21. 87	32. 12	43. 670
11. 2	22. 43	33. 120	44. 700

Side B

1. 1	12. 13	23. 4	34. 300
2. 2	13. 6	24. 84	35. 25
3. 3	14. 16	25. 184	36. 250
4. 7	15. 9	26. 8	37. 500
5. 4	16. 19	27. 28	38. 74
6. 8	17. 29	28. 428	39. 740
7. 6	18. 39	29. 6	40. 400
8. 5	19. 69	30. 56	41. 91
9. 9	20. 65	31. 756	42. 582
10. 10	21. 86	32. 13	43. 760
11. 3	22. 42	33. 130	44. 600

Problem Set

- First 7 units shaded; 0.1, 0.2, 0.3, ..., 0.9;
 $\frac{1}{10}, \frac{2}{10}, \frac{3}{10}, \dots, \frac{9}{10}$; 0.7 circled
- $\frac{6}{10} = 0.6$; $\frac{8}{10} = 0.8$; $\frac{9}{10}$;
 third container $\frac{9}{10}$ shaded
- $\frac{4}{10}$; 0.8; $\frac{2}{10}$
- $\frac{5}{10}$; 0.5; 0.5 or $\frac{5}{10}$
- $\frac{2}{10}$; 0.2
 - $\frac{8}{10}$; 0.8
 - $\frac{4}{10}$; 0.4
- Lines drawn to matching values

Exit Ticket

- $\frac{1}{10}$; 0.1
 - $\frac{6}{10}$; 0.6
- Lines drawn to matching values

Homework

- First 4 units shaded; 0.2, 0.3, ..., 0.9;
 $\frac{2}{10}, \frac{3}{10}, \dots, \frac{9}{10}$; 0.4 circled
- $\frac{7}{10} = 0.7$; $\frac{8}{10} = 0.8$; $\frac{3}{10} = 0.3$;
 third container $\frac{3}{10}$ shaded
- $\frac{7}{10}$; 0.6
- $\frac{5}{10}$; 0.5; 1
- $\frac{6}{10}$; 0.6
 - $\frac{7}{10}$; 0.7
 - $\frac{2}{10}$; 0.2
- Lines drawn to matching values

Lesson 2

Problem Set

- Line segments drawn to given lengths
 - $2.6 \text{ cm} = 2 \frac{6}{10} \text{ cm}$
 - $3.4 \text{ cm} = 3 \frac{4}{10} \text{ cm}$
 - $3.7 \text{ cm} = 3 \frac{7}{10} \text{ cm}$
 - $4.2 \text{ cm} = 4 \frac{2}{10} \text{ cm}$
 - $2.5 \text{ cm} = 2 \frac{5}{10} \text{ cm}$
- Models shaded appropriately
 - 2.6
 - $4.2; 4 + \frac{2}{10} = 4 + 0.2 = 4.2$
 - $3.4; 3 + \frac{4}{10} = 3 + 0.4 = 3.4$
 - $2.5; 2 + \frac{5}{10} = 2 + 0.5 = 2.5; 2.5$
 - $3.7; 3 + \frac{7}{10} = 3 + 0.7 = 3.7; 1.3$

Exit Ticket

- Line segment drawn to given length; $4 \frac{8}{10} \text{ cm}$
- $3.7, 3 \frac{7}{10}$; models shaded appropriately
 - $2.4, 2 \frac{4}{10}$; models shaded appropriately; 2.6

Homework

- Line segments drawn to given lengths
 - $2 \frac{6}{10} \text{ cm}$
 - $3 \frac{5}{10} \text{ cm}$
 - $1 \frac{7}{10} \text{ cm}$
 - $4 \frac{3}{10} \text{ cm}$
 - $2 \frac{2}{10} \text{ cm}$
- Models shaded appropriately
 - 2.4
 - $3.8; 3 + \frac{8}{10} = 3 + 0.8 = 3.8$
 - $4.1; 4 + \frac{1}{10} = 4 + 0.1 = 4.1$
 - $1.4; 1 + \frac{4}{10} = 1 + 0.4 = 1.4; 3.6$
 - $3.3; 3 + \frac{3}{10} = 3 + 0.3 = 3.3; 1.7$

Lesson 3

Problem Set

1.
 - a. 28; 2 ones and 8 tenths disks drawn; 2.8; 0.2
 - b. 33; 3 ones and 3 tenths disks drawn; 3.3; 0.7
2.
 - a. Answer provided.
 - b. Disks drawn appropriately
 $(1 \times 10) + (7 \times 1) + (5 \times \frac{1}{10}) = 17\frac{5}{10}$
 $(1 \times 10) + (7 \times 1) + (5 \times 0.1) = 17.5$
 - c. Disks drawn appropriately
 $(2 \times 10) + (3 \times 1) + (2 \times \frac{2}{10}) = 23\frac{2}{10}$
 $(2 \times 10) + (3 \times 1) + (2 \times 0.2) = 23.2$
 - d. Disks drawn appropriately
 $(7 \times 10) + (4 \times 1) + (7 \times \frac{1}{10}) = 74\frac{7}{10}$
 $(7 \times 10) + (4 \times 1) + (7 \times 0.1) = 74.7$
3.
 - a. 3.9 plotted with endpoints 3 and 4; 3.9; $(3 \times 1) + (9 \times 0.1)$ or $(3 \times 1) + (9 \times \frac{1}{10})$
 - b. 17.5 ; $17\frac{5}{10}$; $(1 \times 10) + (7 \times 1) + (5 \times \frac{1}{10})$ or $(1 \times 10) + (7 \times 1) + (5 \times 0.1)$; 0.5
 - c. 74.7 plotted with endpoints 74 and 75; 74.7 ; $74\frac{7}{10}$; 0.3
 - d. 22.2 plotted with endpoints 21 and 22; 22.2 ; $(2 \times 10) + (2 \times 1) + (2 \times 0.1)$ or $(2 \times 10) + (2 \times 1) + (2 \times \frac{1}{10})$; 0.8
 - e. 80.8 plotted with endpoints 80 and 81; 80.8 ; $80\frac{8}{10}$; 0.2

Exit Ticket

1. 18; 1 one 8 tenths disks drawn; 1.8; 0.2
2.
 - a. 12.9 plotted with endpoints 12 and 13; 12.9; $(1 \times 10) + (2 \times 1) + (9 \times \frac{1}{10})$ or $(1 \times 10) + (2 \times 1) + (9 \times 0.1)$; 0.1
 - b. 70.7 plotted with endpoints 70 and 71; $70\frac{7}{10}$; $(7 \times 10) + (7 \times \frac{1}{10})$ or $(7 \times 10) + (7 \times 0.1)$; 0.3

Homework

1.
 - a. 14; 1 one and 4 tenths disks drawn; 1.4; 0.6
 - b. 25; 2 ones and 5 tenths disks drawn; 2.5; 0.5
2.
 - a. Answer provided.
 - b. Disks drawn appropriately
 $(5 \times 10) + (3 \times 1) + (7 \times \frac{1}{10}) = 53\frac{7}{10}$; $(5 \times 10) + (3 \times 1) + (7 \times 0.1) = 53.7$
 - c. Disks drawn appropriately
 $(3 \times 10) + (2 \times 1) + (3 \times \frac{1}{10}) = 32\frac{3}{10}$; $(3 \times 10) + (2 \times 1) + (3 \times 0.1) = 32.3$
 - d. Disks drawn appropriately
 $(8 \times 10) + (4 \times 1) + (8 \times \frac{1}{10}) = 84\frac{8}{10}$; $(8 \times 10) + (4 \times 1) + (8 \times 0.1) = 84.8$
3.
 - a. 4.6 plotted with endpoints 4 and 5; 4.6; $(4 \times 1) + (6 \times \frac{1}{10})$ or $(4 \times 1) + (6 \times 0.1)$; 0.4
 - b. 24.5, $24\frac{5}{10}$; $(2 \times 10) + (4 \times 1) + (5 \times \frac{1}{10})$ or $(2 \times 10) + (4 \times 1) + (5 \times 0.1)$; 0.5
 - c. 63.6 plotted with endpoints 63 and 64; 63.6; $63\frac{6}{10}$; 0.4
 - d. 71.3 plotted with endpoints 71 and 72; 71.3; $(7 \times 10) + (1 \times 1) + (3 \times \frac{1}{10})$ or $(7 \times 10) + (1 \times 1) + (3 \times 0.1)$; 0.7
 - e. 90.9 plotted with endpoints 90 and 91; 90.9; $90\frac{9}{10}$; 0.1

Lesson 4

Sprint

Side A

- | | | | |
|---------|---------|--------|---------|
| 1. 0.2 | 12. 8 | 23. 10 | 34. 4.3 |
| 2. 0.3 | 13. 0.7 | 24. 20 | 35. 2 |
| 3. 0.4 | 14. 4 | 25. 50 | 36. 18 |
| 4. 0.8 | 15. 0.9 | 26. 40 | 37. 3.4 |
| 5. 0.6 | 16. 1 | 27. 41 | 38. 5 |
| 6. 1 | 17. 1.1 | 28. 42 | 39. 47 |
| 7. 2 | 18. 1.2 | 29. 46 | 40. 2.8 |
| 8. 3 | 19. 1.5 | 30. 26 | 41. 3 |
| 9. 7 | 20. 2.5 | 31. 36 | 42. 32 |
| 10. 5 | 21. 4.5 | 32. 34 | 43. 2 |
| 11. 0.5 | 22. 3.8 | 33. 23 | 44. 21 |

Side B

- | | | | |
|---------|---------|--------|---------|
| 1. 0.1 | 12. 9 | 23. 10 | 34. 3.4 |
| 2. 0.2 | 13. 0.6 | 24. 20 | 35. 5.0 |
| 3. 0.3 | 14. 5 | 25. 40 | 36. 17 |
| 4. 0.7 | 15. 0.9 | 26. 30 | 37. 4.3 |
| 5. 0.5 | 16. 1 | 27. 31 | 38. 2 |
| 6. 2 | 17. 1.1 | 28. 32 | 39. 46 |
| 7. 3 | 18. 1.2 | 29. 36 | 40. 2.4 |
| 8. 4 | 19. 1.7 | 30. 16 | 41. 4 |
| 9. 8 | 20. 2.7 | 31. 26 | 42. 23 |
| 10. 6 | 21. 4.7 | 32. 42 | 43. 3 |
| 11. 0.4 | 22. 3.4 | 33. 25 | 44. 41 |

Problem Set

1.
 - a. 10 cm
 - b. $\frac{1}{100}$ m
 - c. $\frac{1}{10}$ or $\frac{10}{100}$ m
 - d. 0.1 or 0.10 m
 - e. $\frac{1}{10}$ m or $\frac{10}{100}$ m
2.
 - a. 10
 - b. 10
 - c. 100
3.
 - a. Answer provided.
 - b. $\frac{2}{10}$ m + $\frac{4}{100}$ m = $\frac{24}{100}$ m = 0.24 m; number bond showing $\frac{2}{10}$ and $\frac{4}{100}$ is 0.24
 - c. $\frac{3}{10}$ m + $\frac{8}{100}$ m = $\frac{38}{100}$ m = 0.38 m; number bond showing $\frac{3}{10}$ and $\frac{8}{100}$ is 0.38
4.
 - a. Shaded appropriately; 0.8 m
 - b. Shaded appropriately; 0.07 m
 - c. Shaded appropriately; 0.19 m
5.
 - a. Number bond showing $\frac{1}{10}$ and $\frac{9}{100}$ is 0.19 m
 - b. Number bond showing $\frac{2}{10}$ and $\frac{8}{100}$ is 0.28 m
 - c. Number bond showing $\frac{7}{10}$ and $\frac{7}{100}$ is 0.77
 - d. Number bond showing $\frac{9}{10}$ and $\frac{4}{100}$ is 0.94

Exit Ticket

1. Shaded appropriately; 0.6 m
2.
 - a. Number bond showing $\frac{6}{10}$ and $\frac{2}{100}$ is 0.62 m
 - b. Number bond showing $\frac{2}{10}$ and $\frac{7}{100}$ is 0.27

Homework

1.
 - a. 30 cm
 - b. $\frac{3}{100}$ m
 - c. $\frac{3}{10}$ or $\frac{30}{100}$ m
 - d. 0.3 or 0.30 m
 - e. $\frac{3}{10}$ or $\frac{30}{100}$ m
2.
 - a. 50
 - b. 50
 - c. 100
3.
 - a. Answer provided.
 - b. $\frac{3}{10}$ m + $\frac{8}{100}$ m = $\frac{38}{100}$ m = 0.38 m; number bond showing $\frac{3}{10}$ and $\frac{8}{100}$ is 0.38
 - c. $\frac{4}{10}$ m + $\frac{6}{100}$ m = $\frac{46}{100}$ m = 0.46 m; number bond showing $\frac{4}{10}$ and $\frac{6}{100}$ is 0.46
4.
 - a. Shaded appropriately; 0.09 m
 - b. Shaded appropriately; 0.15 m
 - c. Shaded appropriately; 0.41 m
5.
 - a. Number bond showing $\frac{2}{10}$ and $\frac{3}{100}$ is 0.23 m
 - b. Number bond showing $\frac{3}{10}$ and $\frac{8}{100}$ is 0.38 m
 - c. Number bond showing $\frac{8}{10}$ and $\frac{2}{100}$ is 0.82
 - d. Number bond showing $\frac{7}{10}$ and $\frac{6}{100}$ is 0.76

Lesson 5

Problem Set

1.
 - a. 10, 10, 30; models shaded appropriately; 0.30
 - b. 10, 10, 5; models shaded appropriately; 0.5
2.
 - a. 3, 7; $\frac{37}{100}$; 0.37; model shaded appropriately
 - b. 7, 5; $\frac{75}{100}$; 0.75; model shaded appropriately
3.
 - a. 10 disks circled; 12, 1, 2; number bond showing $\frac{1}{10}$ and $\frac{2}{100}$ is 0.12
 - b. 2 groups of 10 disks circled; 27, 2, 7; number bond showing $\frac{2}{10}$ and $\frac{7}{100}$ is 0.27
4.
 - a. 03; 3; 3 (0.01) disks drawn
 - b. 15; 1, 5; 1 (0.1) disk and 5 (0.01) disks drawn
 - c. $\frac{72}{100}$; 72; 7 (0.1) disks and 2 (0.01) disks drawn
 - d. $\frac{8}{10}$; 8; 8 (0.1) disks drawn
 - e. $\frac{72}{100}$; 72; 7 (0.1) disks and 2 (0.01) disks drawn
 - f. $\frac{80}{100}$; 80; 8 (0.1) disks drawn

Exit Ticket

1. 07; 7; 7 (0.01) disks drawn
2. 34; 3, 4; 3 (0.1) disks and 4 (0.01) disks drawn

Homework

1. a. 10, 10, 40; model shaded appropriately; 0.4 or 0.40
b. 10, 10, 6; model shaded appropriately; 0.6
2. a. 3, 6; $0.36; \frac{36}{100}$; model shaded appropriately
b. 8, 2; $0.82; \frac{82}{100}$; model shaded appropriately
3. a. 1 group of 10 disks circled; 14, 1, 4; number bond showing $\frac{1}{10}$ and $\frac{4}{100}$ is 0.14
b. 2 groups of 10 disks circled; 24, 2, 4; number bond showing $\frac{2}{10}$ and $\frac{4}{100}$ is 0.24
4. a. 04; 4; 4 (0.01) disks drawn
b. 13; 1, 3; 1 (0.1) disk and 3 (0.01) disks drawn
c. $\frac{41}{100}$; 41; 4 (0.1) disks and 1 (0.01) disk drawn
d. $\frac{9}{10}$; 9; 9 (0.1) disks drawn
e. $\frac{63}{100}$; 63; 6 (0.1) disks and 3 (0.01) disks drawn
f. $\frac{90}{100}$; 90; 9 (0.1) disks drawn

Lesson 6

Problem Set

- 1.15, model shaded appropriately; point plotted accurately on number line
 - 2.47, model shaded appropriately; point plotted accurately on number line
- Point plotted accurately on number line
 - Point plotted accurately on number line
- $1\frac{2}{100}$; 1.02
 - $1\frac{17}{100}$; 1.17
 - $2\frac{8}{100}$; 2.08
 - $2\frac{27}{100}$; 2.27
 - $4\frac{58}{100}$; 4.58
 - $7\frac{70}{100}$; 7.70
- Lines drawn to matching values

Exit Ticket

- 7.20 plotted accurately on number line
 - 1.75 plotted accurately on number line
- $8\frac{24}{100}$; 8.24
 - $2\frac{6}{100}$; 2.06

Homework

- 2.35; model shaded appropriately; point plotted accurately on number line
 - 3.17; model shaded appropriately; point plotted accurately on number line
- 5.9 plotted accurately on number line
 - 3.25 plotted accurately on number line
- $2\frac{2}{100}$; 2.02
 - $2\frac{16}{100}$; 2.16
 - $3\frac{7}{100}$; 3.07
 - $1\frac{18}{100}$; 1.18
 - $9\frac{62}{100}$; 9.62
 - $6\frac{20}{100}$; 6.20
- Lines drawn to matching values

Lesson 7

Problem Set

1. a. $20 + 0.5 + 0.03 = 20.53$

b. $500 + 0.04 = 500.04$

2. a. 4; 4 hundreds

b. 1; 1 ten

c. 8; 8 tenths

d. 3; 3 hundredths

e. 5; 5 hundreds

f. 3; 3 tens

g. 1; 1 tenth

h. 6; 6 hundredths

3.

$21\frac{4}{10}$	$(2 \times 10) + (1 \times 1) + (4 \times \frac{1}{10})$ $20 + 1 + \frac{4}{10}$	$(2 \times 10) + (1 \times 1) + (4 \times 0.1)$ $20 + 1 + 0.4$
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$38\frac{9}{100}$	$(3 \times 10) + (8 \times 1) + (9 \times \frac{1}{100})$ $30 + 8 + \frac{9}{100}$	$(3 \times 10) + (8 \times 1) + (9 \times 0.01)$ $30 + 8 + 0.09$
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$50\frac{2}{10}$	$(5 \times 10) + (2 \times \frac{1}{10})$ $50 + \frac{2}{10}$	$(5 \times 10) + (2 \times 0.1)$ $50 + 0.2$
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$301\frac{7}{100}$	$(3 \times 100) + (1 \times 1) + (7 \times \frac{1}{100})$ $300 + 1 + \frac{7}{100}$	$(3 \times 100) + (1 \times 1) + (7 \times 0.01)$ $300 + 1 + 0.07$
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$620\frac{80}{100}$	$(6 \times 100) + (2 \times 10) + (80 \times \frac{1}{100})$ $600 + 20 + \frac{80}{100}$	$(6 \times 100) + (2 \times 10) + (80 \times 0.01)$ $600 + 20 + 0.80$
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$800\frac{8}{100}$	$(8 \times 100) + (8 \times \frac{1}{100})$ $800 + \frac{8}{100}$	$(8 \times 100) + (8 \times 0.01)$ $800 + 0.08$
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Exit Ticket

- 8; 8 hundreds
 - 2; 2 tens
 - 6; 6 tenths
 - 4; 4 hundredths
- $(4 \times 100) + (2 \times 10) + (2 \times 1) + (8 \times \frac{1}{100})$ $(4 \times 100) + (2 \times 10) + (2 \times 1) + (8 \times 0.01)$ 422.08
 $300\frac{92}{100}$ $(3 \times 100) + (9 \times 0.1) + (2 \times 0.01)$ 300.92

Homework

- $30 + 0.4 + 0.02 = 30.42$
 - $400 + 0.03 = 400.03$
- 8, 8 hundreds
 - 2, 2 tens
 - 6, 6 tenths
 - 4, 4 hundredths
 - 3, 3 hundreds
 - 4, 4 tens
 - 1, 1 tenth
 - 9, 9 hundredths
- | | | |
|---------------------|---|---|
| $25\frac{3}{10}$ | $(2 \times 10) + (5 \times 1) + (3 \times \frac{1}{10})$
$20 + 5 + \frac{3}{10}$ | $(2 \times 10) + (5 \times 1) + (3 \times 0.1)$
$20 + 5 + 0.3$ |
| $39\frac{7}{100}$ | $(3 \times 10) + (9 \times 1) + (7 \times \frac{1}{100})$
$30 + 9 + \frac{7}{100}$ | $(3 \times 10) + (9 \times 1) + (7 \times 0.01)$
$30 + 9 + 0.07$ |
| $40\frac{6}{10}$ | $(4 \times 10) + (6 \times \frac{1}{10})$
$40 + \frac{6}{10}$ | $(4 \times 10) + (6 \times 0.1)$
$40 + 0.6$ |
| $208\frac{90}{100}$ | $(2 \times 100) + (8 \times 1) + (90 \times \frac{1}{100})$
$200 + 8 + \frac{90}{100}$ | $(2 \times 100) + (8 \times 1) + (9 \times 0.1)$
$200 + 8 + 0.9$ |
| $510\frac{7}{100}$ | $(5 \times 100) + (1 \times 10) + (7 \times \frac{1}{100})$
$500 + 10 + \frac{7}{100}$ | $(5 \times 100) + (1 \times 10) + (7 \times 0.01)$
$500 + 10 + 0.07$ |
| $900\frac{9}{100}$ | $(9 \times 100) + (9 \times \frac{1}{100})$
$900 + \frac{9}{100}$ | $(9 \times 100) + (9 \times 0.01)$
$900 + 0.09$ |

Lesson 8

Sprint

Side A

- | | | | |
|-----------------------|---------------------|-----------|-----------|
| 1. 0.3 | 12. $\frac{6}{10}$ | 23. 2.16 | 34. 30.72 |
| 2. 0.03 | 13. 0.07 | 24. 2.16 | 35. 2.35 |
| 3. 0.23 | 14. $\frac{2}{100}$ | 25. 3.16 | 36. 4.53 |
| 4. 1.23 | 15. 0.09 | 26. 3.14 | 37. 4.53 |
| 5. 4.23 | 16. 0.10 | 27. 3.54 | 38. 4.53 |
| 6. $\frac{7}{100}$ | 17. 0.12 | 28. 2.38 | 39. 20.81 |
| 7. $1\frac{7}{100}$ | 18. 0.12 | 29. 2.08 | 40. 4.29 |
| 8. $\frac{7}{10}$ | 19. 0.13 | 30. 1.3 | 41. 2.74 |
| 9. $1\frac{7}{10}$ | 20. 0.14 | 31. 10.3 | 42. 8.62 |
| 10. $1\frac{74}{100}$ | 21. 0.19 | 32. 1.46 | 43. 8.95 |
| 11. 0.04 | 22. 3.19 | 33. 10.46 | 44. 10.94 |

Side B

- | | | | |
|--------------------|--------------------|-----------|-----------|
| 1. 0.1 | 12. $\frac{9}{10}$ | 23. 2.14 | 34. 30.96 |
| 2. 0.2 | 13. 0.6 | 24. 2.14 | 35. 2.57 |
| 3. 0.3 | 14. $\frac{5}{10}$ | 25. 3.14 | 36. 4.75 |
| 4. 0.7 | 15. 0.9 | 26. 3.16 | 37. 4.75 |
| 5. 0.5 | 16. 1.0 | 27. 3.56 | 38. 4.75 |
| 6. $\frac{2}{10}$ | 17. 1.1 | 28. 2.49 | 39. 20.61 |
| 7. $\frac{3}{10}$ | 18. 1.2 | 29. 2.06 | 40. 6.47 |
| 8. $\frac{4}{10}$ | 19. 1.7 | 30. 1.5 | 41. 2.96 |
| 9. $\frac{8}{10}$ | 20. 2.7 | 31. 10.5 | 42. 6.84 |
| 10. $\frac{6}{10}$ | 21. 4.7 | 32. 1.24 | 43. 8.73 |
| 11. 0.4 | 22. 3.4 | 33. 10.24 | 44. 10.76 |

Problem Set

1. a. Area model accurately shaded;
25, 2, 5, 2.5
b. Explanations will vary.
2. 20; disks drawn to model number
20; disks drawn to model number
13; disks drawn to model number
23; disks drawn to model number
3. a. 10
b. 20
c. 17
d. 29
e. 107
f. 209
4. a. 100
b. 200
c. 170
d. 290
e. 1070
f. 2090
5. $4\frac{2}{10}$; 42 tenths, $\frac{42}{10}$; 420 hundredths, $\frac{420}{100}$
 $8\frac{4}{10}$; 84 tenths, $\frac{84}{10}$; 840 hundredths, $\frac{840}{100}$
 $10\frac{2}{10}$; 102 tenths, $\frac{102}{10}$; 1020 hundredths, $\frac{1020}{100}$
 $75\frac{5}{10}$; 755 tenths, $\frac{755}{10}$; 7550 hundredths, $\frac{7550}{100}$

Exit Ticket

1. a. 32; disks drawn to model number
b. 320
2. a. 26
b. 610

Homework

1. a. Area model accurately shaded;
22, 2, 2, 2.2
b. Explanations will vary.
2. 30; disks drawn to model number
30; disks drawn to model number
23; disks drawn to model number
33; disks drawn to model number
3. a. 10
b. 20
c. 13
d. 26
e. 103
f. 206
4. a. 100
b. 200
c. 130
d. 260
e. 1030
f. 2060
5. $5\frac{3}{10}$; 53 tenths, $\frac{53}{10}$; 530 hundredths, $\frac{530}{100}$
 $9\frac{7}{10}$; 97 tenths, $\frac{97}{10}$; 970 hundredths, $\frac{970}{100}$
 $10\frac{9}{10}$; 109 tenths, $\frac{109}{10}$; 1090 hundredths, $\frac{1090}{100}$
 $68\frac{5}{10}$; 685 tenths, $\frac{685}{10}$; 6850 hundredths, $\frac{6850}{100}$

Lesson 9

Problem Set

- 0.3 m, 0.27 m; 0.3 meters is longer than 0.27 meters, or 0.27 meters is shorter than 0.3 meters
 - 0.35 m, 0.4 m; 0.4 meters is longer than 0.35 meters, or 0.35 meters is shorter than 0.4 meters
 - 0.27 m, 0.3 m, 0.35 m, 0.4 m
- Bananas and grapes (0.6 kg and 0.61 kg) crossed off
 - 0.2; 0.12; 0.6; 0.61
 - Heavier than; lighter than
- 0.6, 0.3, 0.9, 0.97, 0.19, 0.48
 - >
 - <
 - >
 - 0.19 L, 0.3 L, 0.48 L, 0.6 L, 0.9 L, 0.97L

Exit Ticket

- 0.54 m; 0.5 m; 0.47 m
 - 0.47 m, 0.5 m, 0.54 m
- >
 - <
 - <

Homework

- 0.68 m, 0.7 m; 0.7 meters is longer than 0.68 meters, or 0.68 meters is shorter than 0.7 meters
 - 0.5 m, 0.44 m; 0.5 meters is longer than 0.44 meters, or 0.44 meters is shorter than 0.5 meters
 - 0.44 m, 0.5 m, 0.68 m, 0.7 m
- Basketball and soccer ball (0.62 kg and 0.43 kg) crossed off
 - 0.15; 0.25; 0.62; 0.43
 - Heavier than; lighter than
- 0.7, 0.62, 0.28, 0.4, 0.85, 0.2
 - >
 - <
 - <
 - 0.2 L, 0.28 L, 0.4 L, 0.62 L, 0.7 L, 0.85 L

Lesson 10

Problem Set

1.
 - a. $<$, models shaded appropriately
 - b. $>$, models shaded appropriately
 - c. $<$, models shaded appropriately
 - d. $=$, models shaded appropriately
2.
 - a. $<$, points plotted and labeled accurately
 - b. $<$, points plotted and labeled accurately
3.
 - a. $<$
 - b. $>$
 - c. $<$
 - d. $<$
 - e. $=$
 - f. $>$
4.
 - a. $=$
 - b. $<$
 - c. $<$
 - d. $<$
 - e. $<$
 - f. $<$

Exit Ticket

1. $=$, Ryan and Jessie are wrong, answers may vary; models shaded appropriately
2.
 - a. $>$
 - b. $>$
 - c. $=$

Homework

1.
 - a. $<$, models shaded appropriately
 - b. $>$, models shaded appropriately
 - c. $>$, models shaded appropriately
 - d. $<$, models shaded appropriately
2.
 - a. $>$, points plotted and labeled accurately
 - b. $<$, points plotted and labeled accurately
3.
 - a. $>$
 - b. $<$
 - c. $>$
 - d. $<$
 - e. $=$
 - f. $<$
4.
 - a. $=$
 - b. $>$
 - c. $>$
 - d. $<$
 - e. $=$
 - f. $>$

Lesson 11

Problem Set

1.
 - a. Points plotted accurately in following order: $\frac{1}{10}$, $\frac{12}{100}$, 0.2, 0.21, $\frac{32}{100}$, 0.33
 - b. Points plotted accurately in following order: 3.62, $\frac{364}{100}$, 3.7, $\frac{38}{10}$, $3\frac{85}{100}$
 - c. Points plotted accurately in following order: $\frac{62}{10}$, $\frac{628}{100}$, $6\frac{3}{10}$, 6.31, 6.40, 6.43
2.
 - a. $2.72 > 2.71 > 2.7 > 2.27 > 2.07 > 0.27$
 - b. $13.2 > 13.02 > 12.3 > 12.2 > 1.34$
 - c. $75 > 7.5 > 7.4 > 7.34 > 7.3 > 7.2$
3. Rhonda
4. December; March

Exit Ticket

1. Points plotted accurately in following order: 1.02, 1.1, 1.11, 1.20, 1.29, 1.3
2. $6.56 > 6.5 > 6.15 > 6.05 > 5.6 > 5.16$

Homework

1.
 - a. Points plotted accurately in following order: 0.5, 0.53, 0.6, 0.67, 0.76, 0.79
 - b. Points plotted accurately in following order: 8.1, 8.15, 8.2, 8.27, 8.32
 - c. Points plotted accurately in following order: 13, 13.03, 13.12, 13.21, 13.3
2.
 - a. $4.43 > 4.33 > 4.31 > 4.30 > 4.03 > 0.34$
 - b. $17.55 > 17.5 > 17.05 > 15.75 > 15.71 > 15.7$
 - c. $81 > 9.8 > 8.9 > 8.19 > 8.09 > 8.1$
3. Jenna
4. Monday; Wednesday

Lesson 12

Problem Set

1.
 - a. 15
 - b. 21; Disks modeled appropriately in chart
 - c. 22; Disks modeled appropriately in chart
2.
 - a. 10, 13
 - b. 50, 12, 62
 - c. 70, 27, 97
 - d. 37, 70, 107
3.
 - a. 0.28
 - b. 0.53
 - c. 0.99
 - d. 1
4.
 - a. 1.32
 - b. 1.2
 - c. 1.48
 - d. 1.57
5. 1.03 L

Exit Ticket

1. 19; Disks modeled appropriately in chart
2. 1.13

Homework

1.
 - a. 18
 - b. 23; Disks modeled appropriately in chart
 - c. 24; Disks modeled appropriately in chart
2.
 - a. 10, 12
 - b. 40, 11, 51
 - c. 80, 25, 105
 - d. 43, 60, 103
3.
 - a. 0.37
 - b. 0.66
 - c. 0.90 or 0.9
 - d. 1
4.
 - a. 1.03
 - b. 1.07
 - c. 1.18
 - d. 1.68
5. 1.48 inches

Lesson 13

Problem Set

1.
 - a. $2\frac{13}{100}$; 2.13
 - b. $7\frac{13}{100}$; $2.1 + 5.03 = 7.13$
 - c. $3\frac{24}{100} + \frac{70}{100} = 3\frac{94}{100}$; $3.24 + 0.7 = 3.94$
 - d. $3\frac{24}{100} + 8\frac{70}{100} = 11\frac{94}{100}$; $3.24 + 8.7 = 11.94$
2.
 - a. 8; $6.9 + 1.1 = 8$
 - b. $12\frac{35}{100}$; $9.9 + 2.45 = 12.35$
 - c. $11\frac{30}{100}$; $2.4 + 8.90 = 11.3$
 - d. $14\frac{7}{100}$; $6.37 + 7.7 = 14.07$
3.
 - a. $6\frac{4}{10} + 5\frac{3}{10} = 11\frac{7}{10}$; $6.4 + 5.3 = 11.7$
 - b. $6\frac{62}{100} + 2\frac{98}{100} = 9\frac{60}{100}$; $6.62 + 2.98 = 9.6$
 - c. $2\frac{10}{100} + \frac{94}{100} = 3\frac{4}{100}$; $2.10 + 0.94 = 3.04$
 - d. $2\frac{10}{100} + 5\frac{94}{100} = 8\frac{4}{100}$; $2.10 + 5.94 = 8.04$
 - e. $5\frac{70}{100} + 4\frac{92}{100} = 10\frac{62}{100}$; $5.70 + 4.92 = 10.62$
 - f. $5\frac{68}{100} + 4\frac{90}{100} = 10\frac{58}{100}$; $5.68 + 4.90 = 10.58$
 - g. $4\frac{80}{100} + 3\frac{27}{100} = 8\frac{7}{100}$; $4.8 + 3.27 = 8.07$
 - h. $17\frac{60}{100} + 3\frac{59}{100} = 21\frac{19}{100}$; $17.6 + 3.59 = 21.19$

Exit Ticket

1. $7\frac{30}{100} + \frac{95}{100} = 8\frac{25}{100}$; $7.3 + 0.95 = 8.25$
2. $8\frac{29}{100} + 5\frac{90}{100} = 14\frac{19}{100}$; $8.29 + 5.9 = 14.19$

Homework

1.
 - a. $5\frac{27}{100}$; 5.27
 - b. $8\frac{27}{100}$; $5.2 + 3.07 = 8.27$
 - c. $6\frac{50}{100} + \frac{1}{100} = 6\frac{51}{100}$; $6.5 + 0.01 = 6.51$
 - d. $6\frac{50}{100} + 7\frac{1}{100} = 13\frac{51}{100}$; $6.5 + 7.01 = 13.51$
2.
 - a. 10; $4.9 + 5.1 = 10$
 - b. $11\frac{35}{100}$; $8.7 + 2.65 = 11.35$
 - c. $14\frac{17}{100}$; $7.3 + 6.87 = 14.17$
 - d. $13\frac{28}{100}$; $5.48 + 7.8 = 13.28$
3.
 - a. $2\frac{97}{100}$; $2.1 + 0.87 = 2.97$
 - b. $7\frac{20}{100} + 2\frac{67}{100} = 9\frac{87}{100}$; $7.2 + 2.67 = 9.87$
 - c. $7\frac{3}{10} + 1\frac{8}{10} = 9\frac{1}{10}$; $7.3 + 1.8 = 9.1$
 - d. $7\frac{30}{100} + 1\frac{86}{100} = 9\frac{16}{100}$; $7.3 + 1.86 = 9.16$
 - e. $6\frac{7}{100} + 3\frac{93}{100} = 10$; $6.07 + 3.93 = 10$
 - f. $6\frac{87}{100} + 3\frac{90}{100} = 10\frac{77}{100}$; $6.87 + 3.9 = 10.77$
 - g. $8\frac{60}{100} + 4\frac{67}{100} = 13\frac{27}{100}$; $8.6 + 4.67 = 13.27$
 - h. $18\frac{62}{100} + 14\frac{70}{100} = 33\frac{32}{100}$; $18.62 + 14.7 = 33.32$

Lesson 14

Problem Set

1. 5.79 liters
2. 33.14 kilometers
3. 296.85 kilograms
4. 92.28 seconds

Exit Ticket

12.03 kilometers

Homework

1. 3.63 meters
2. 36.14 kilograms
3. 256.54 liters
4. 54.8 seconds

Lesson 15

Problem Set

1. \$1.00; 100
2. \$0.01; 1
3. \$0.06; 6
4. \$0.10; 10
5. \$0.26; 26
6. \$1.00; 10
7. \$0.10; 1
8. \$0.30; 3
9. \$0.50; 5
10. \$0.60; 6
11. \$1.00; 100
12. \$0.25; 25
13. \$0.50; 50
14. \$0.75; 75
15. $\frac{38}{100}$ dollar; \$0.38
16. $\frac{103}{100}$ or $1\frac{3}{100}$ dollars; \$1.03
17. $\frac{110}{100}$ or $1\frac{10}{100}$ dollar; \$1.10
18. $\frac{236}{100}$ or $2\frac{36}{100}$ dollar; \$2.36
19. \$6.67
20. \$5.35
21. \$14.81

Exit Ticket

1. $\frac{80}{100}$ dollar ; \$0.80
2. $\frac{118}{100}$ or $1\frac{18}{100}$ dollars; \$1.18
3. \$6.19

Homework

1. \$1.00; 100
2. \$0.01; 1
3. \$0.03; 3
4. \$0.20; 20
5. \$0.37; 37
6. \$1.00; 10
7. \$0.20; 2
8. \$0.40; 4
9. \$0.60; 6
10. \$0.90; 9
11. \$0.75; 75
12. \$0.50; 50
13. \$1.00; 100
14. \$0.25; 25
15. $\frac{58}{100}$ dollar; \$0.58
16. $\frac{88}{100}$ dollar; \$0.88
17. $\frac{161}{100}$ or $1\frac{61}{100}$ dollar; \$1.61
18. $\frac{187}{100}$ or $1\frac{87}{100}$ dollar
19. \$4.08
20. \$5.26
21. \$16.85

Lesson 16

Sprint

Side A

1. 0.1	12. 0.79	23. 0.2	34. 1.3
2. 0.01	13. 0.79	24. 0.20	35. 1.37
3. 0.11	14. 0.4	25. 0.40	36. 1.2
4. 0.3	15. 0.06	26. 0.3	37. 1.29
5. 0.03	16. 0.46	27. 0.30	38. 1.2
6. 0.33	17. 0.64	28. 0.60	39. 1.24
7. 0.5	18. 0.85	29. 0.70	40. 1.25
8. 0.05	19. 0.92	30. 0.90	41. 1.61
9. 0.55	20. 0.81	31. 1	42. 1.53
10. 0.7	21. 0.14	32. 1.1	43. 1.72
11. 0.09	22. 0.47	33. 1.3	44. 1.88

Side B

1. 0.2	12. 0.48	23. 0.1	34. 1.20
2. 0.02	13. 0.48	24. 0.10	35. 1.27
3. 0.22	14. 0.5	25. 0.2	36. 1.2
4. 0.4	15. 0.07	26. 0.4	37. 1.29
5. 0.04	16. 0.57	27. 0.40	38. 1.4
6. 0.44	17. 0.57	28. 0.8	39. 1.46
7. 0.6	18. 0.96	29. 0.8	40. 1.48
8. 0.06	19. 0.83	30. 0.9	41. 1.51
9. 0.66	20. 0.71	31. 1	42. 1.63
10. 0.4	21. 0.13	32. 1.1	43. 1.74
11. 0.08	22. 0.38	33. 1.3	44. 1.64

Problem Set

1. \$4.11
2. \$3.59
3. No; \$0.96
4. \$9.16
5. \$2.64

Exit Ticket

\$2.16

Homework

1. \$4.59
2. \$2.20
3. No; \$0.61
4. \$14.97
5. \$2.17