This test covers material taught in Dimensions Math 4A.

1 Write the numbers in numerals.

(a) Thirty-six thousand, five hundred eighty-two

(b) Nineteen thousand, thirty-five

(c) Five hundred twenty thousand, fifty

(d) 6 ten thousands + 43 tens

(e) 50 ten thousands + 50 hundreds + 6 tens

(f) 13 ones + 15,000 tens

2 Write the missing numbers.

(a) 20,002 = ☐ + 20,000

(b) ☐ = 30,000 + 5,000 + 200 + 50 + 2

(c) ☐ = 5,000 + 600,000 + 6 + 20,000 + 20

(d) 630,450 = 50 + 400 + ☐ + 600,000

3 Write > or < in each ◯.

(a) 53,363 ◯ 53,633

(b) 382,641 ◯ 328,461

(c) 471,365 ◯ 471,369

(d) 79,965 ◯ 79,956

4 Complete the table.

Number	Rounded to the nearest		
	Hundred thousand	Ten thousand	Thousand
309,904			
729,501			
550,000			
81,623			

5 Write the missing numbers.

(a) 33,000 + 80,000 = ☐

(b) 8,000 – 900 = ☐

(c) 100,000 ÷ 5 = ☐

(d) 240,000 × 2 = ☐

(e) ☐ – 10,000= 25,000

(f) ☐ × 8 = 640,000

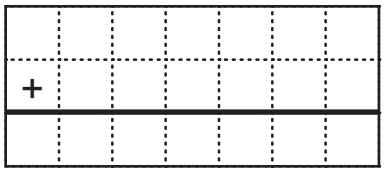
6 Estimate and then find the sum or difference.

(a) 32,843 + 67,872 ≈ ☐

32,843 + 67,872 = ☐

(b) 322,475 – 33,063 ≈ ☐

322,475 – 33,063 = ☐



7 Write the missing numbers.

(a) 6,230 + ☐ = 10,000

(b) ☐ + 471 = 40,000

(c) 60,000 − 563 = ☐

(d) 30,000 − 22 = ☐

(e) 10,000 − ☐ = 4,738

(f) ☐ − 1,723 = 18,277

8 Natalia had $30,000 saved in her college fund. She paid $8,050 for this year's tuition, and next year her tuition will increase by $250. How much money will she have left in her college fund after she pays for next year's tuition?

9 | 30 | 27 | 90 | 32 | 75 | 60 | 108 |

Determine which of the above numbers are multiples of the following numbers:

(a) 2

(b) 3

(c) 5

(d) 6

(e) 9

(f) 10

10 Three lights flash every 4, 6, and 12 seconds. If they all flashed at 1:00, when will they flash at the same time again?

11 Which of the following numbers are composite numbers? Cross them off.
Which of the following numbers are prime numbers? Circle them.

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

12 Find all common factors of each set of numbers.

(a) 48, 30

(b) 32, 64

(c) 35, 37, 90

13 Use mental calculation to find the products.

(a) 1,400 × 6 = ☐

(b) 830 × 3 = ☐

(c) 30,000 × 9 = ☐

(d) 199 × 7 = ☐

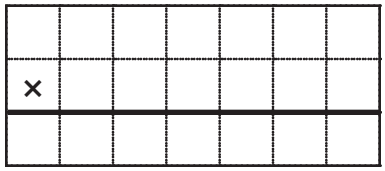
(e) 6 × 23,000 = ☐

(f) 3 × 5,999 = ☐

14 Estimate and then find the exact product.

(a) 6,334 × 5 ≈ ☐

6,334 × 5 = ☐

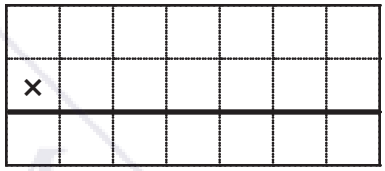


(b) 32,664 × 8 ≈ ☐

32,664 × 8 = ☐

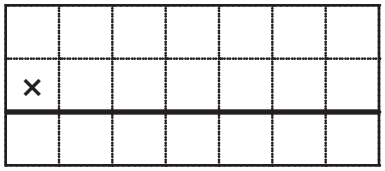
(c) 92 × 31 ≈ ☐

92 × 31 = ☐



(d) 627 × 71 ≈ ☐

627 × 71 = ☐



15 At a local food bank, each container has 175 kg of potatoes. There were 22 full containers and 1 container that had 87 kg of potatoes. 7 full containers were donated to a local shelter. How many kg of potatoes are left?

16 Use mental calculation to find the quotients.

(a) $300 \div 6 =$ ☐

(b) $6{,}400 \div 8 =$ ☐

(c) $8{,}100 \div 9 =$ ☐

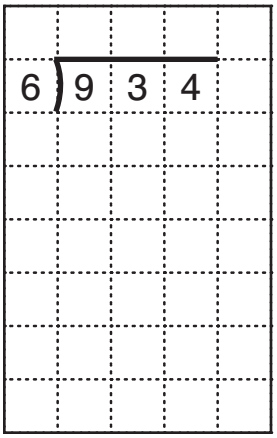
(d) $5{,}600 \div 7 =$ ☐

(e) $4{,}500 \div 5 =$ ☐

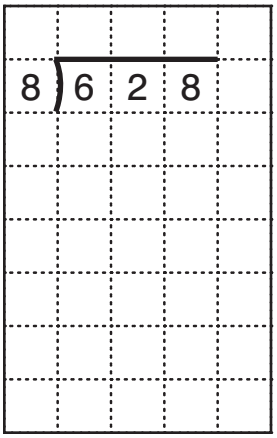
(f) $64{,}000 \div 8 =$ ☐

17 Estimate and then divide.

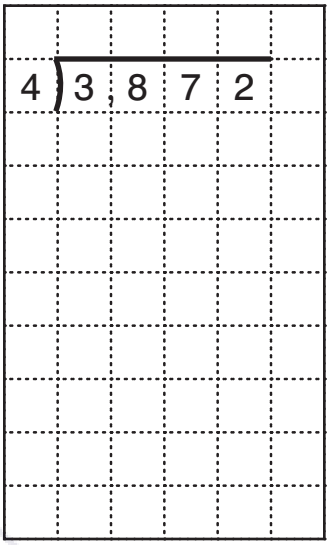
(a) $934 \div 6 \approx$ ☐



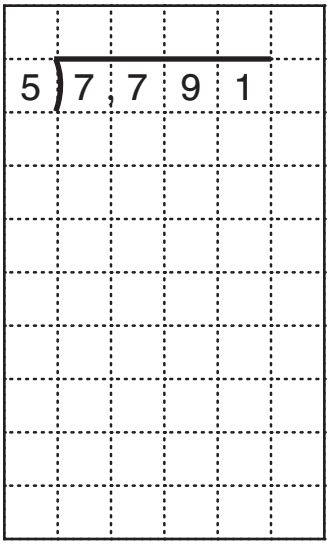
(b) $628 \div 8 \approx$ ☐



(c) $3{,}872 \div 4 \approx$ ☐



(d) $7{,}791 \div 5 \approx$ ☐



18 A farm planted 2,290 trees. It planted 4 times as many apple trees as apricot trees, 30 fewer peach trees than apricot trees, and 220 more plum trees than apricot trees. How many plum trees did it plant?

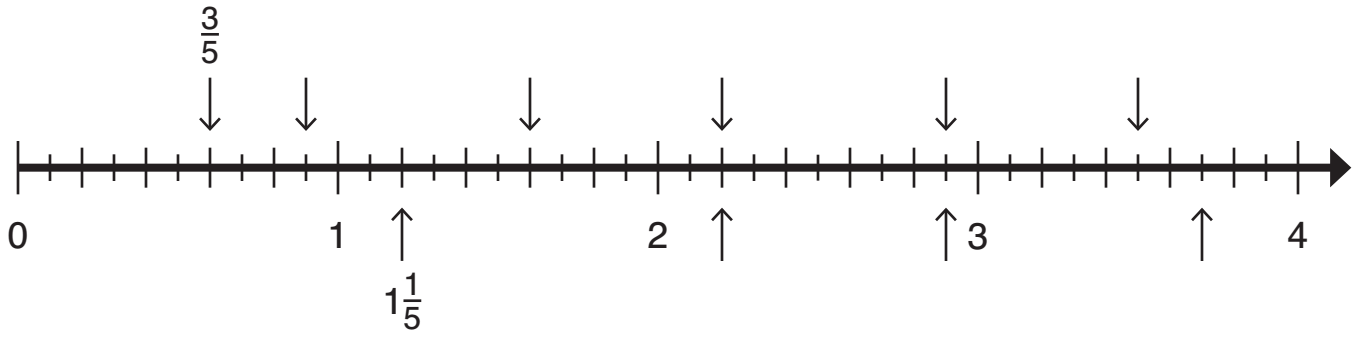
19 Find the equivalent fractions.

(a) $\frac{6}{9} = \frac{8}{\square}$ (b) $\frac{1}{2} = \frac{\square}{18}$ (c) $\frac{3}{4} = \frac{12}{\square}$

(d) $\frac{4}{5} = \frac{\square}{15}$ (e) $\frac{16}{24} = \frac{2}{\square}$ (f) $\frac{9}{15} = \frac{\square}{5}$

(g) $\frac{4}{8} = \frac{1}{\square}$ (h) $\frac{6}{10} = \frac{\square}{5}$ (i) $\frac{9}{30} = \frac{\square}{20}$

20 Finish labeling each arrow with a fraction above the number line and a mixed number below the number line. Use simplest form.



21 Express each value as an improper fraction.

(a) $6\frac{3}{5}$

(b) $4\frac{2}{7}$

(c) $3\frac{7}{8}$

(d) $6\frac{1}{6}$

22 Write the following numbers in order from least to greatest.

$\frac{14}{3}$, $3\frac{3}{7}$, $\frac{21}{4}$

23 54 L of water is poured evenly into 7 glasses. How many liters of water are in each glass? Express your answer as a mixed number in simplest form.

24 Add or subtract. Express answers 1 or greater as whole or mixed numbers. Use simplest form.

(a) $\frac{3}{4} + \frac{11}{12}$

(b) $\frac{5}{6} + \frac{19}{24}$

(c) $\frac{6}{7} + \frac{11}{21}$

(d) $\frac{7}{9} - \frac{1}{3}$

(e) $\frac{12}{5} - \frac{3}{10}$

(f) $\frac{15}{16} - \frac{3}{8}$

25 After Penelope hiked $3\frac{5}{6}$ miles, she had $4\frac{2}{3}$ miles left to hike to reach the lake. What was the total distance to the lake?

26 Subtract. Write your answer as a mixed number in simplest form.

(a) $3\frac{1}{6} - \frac{2}{3}$

(b) $5\frac{7}{8} - \frac{1}{4}$

(c) $5\frac{1}{2} - \frac{7}{20}$

(d) $8\frac{1}{3} - 6\frac{7}{9}$

(e) $9\frac{5}{14} - 2\frac{4}{7}$

(f) $3\frac{1}{3} - 1\frac{13}{15}$

27 Multiply. Express answers 1 or greater as whole or mixed numbers. Use simplest form.

(a) $7 \times \frac{3}{8}$

(b) $3 \times \frac{5}{6}$

(c) $10 \times \frac{3}{5}$

(d) $9 \times \frac{4}{7}$

(e) $15 \times \frac{5}{6}$

(f) $12 \times \frac{7}{13}$

28 What fraction of each set of stars is shaded?

(a) 

(b) 

(c) 

(d) 

(e) 

(f) 

29 Find the value of each of the following. Write your answer in simplest form.

(a) $\frac{1}{4}$ of 9

(b) $\frac{1}{3}$ of 8

(c) $\frac{1}{9} \times 5$

(d) $\frac{2}{5} \times 9$

(e) $\frac{4}{5} \times 40$

(f) $\frac{7}{9} \times 30$

30 In a fourth grade class, $\frac{1}{3}$ of the students play soccer, $\frac{1}{4}$ of the students play basketball, $\frac{1}{12}$ of the students play football, and the remaining 8 students do not play any sports. How many students are in the class?

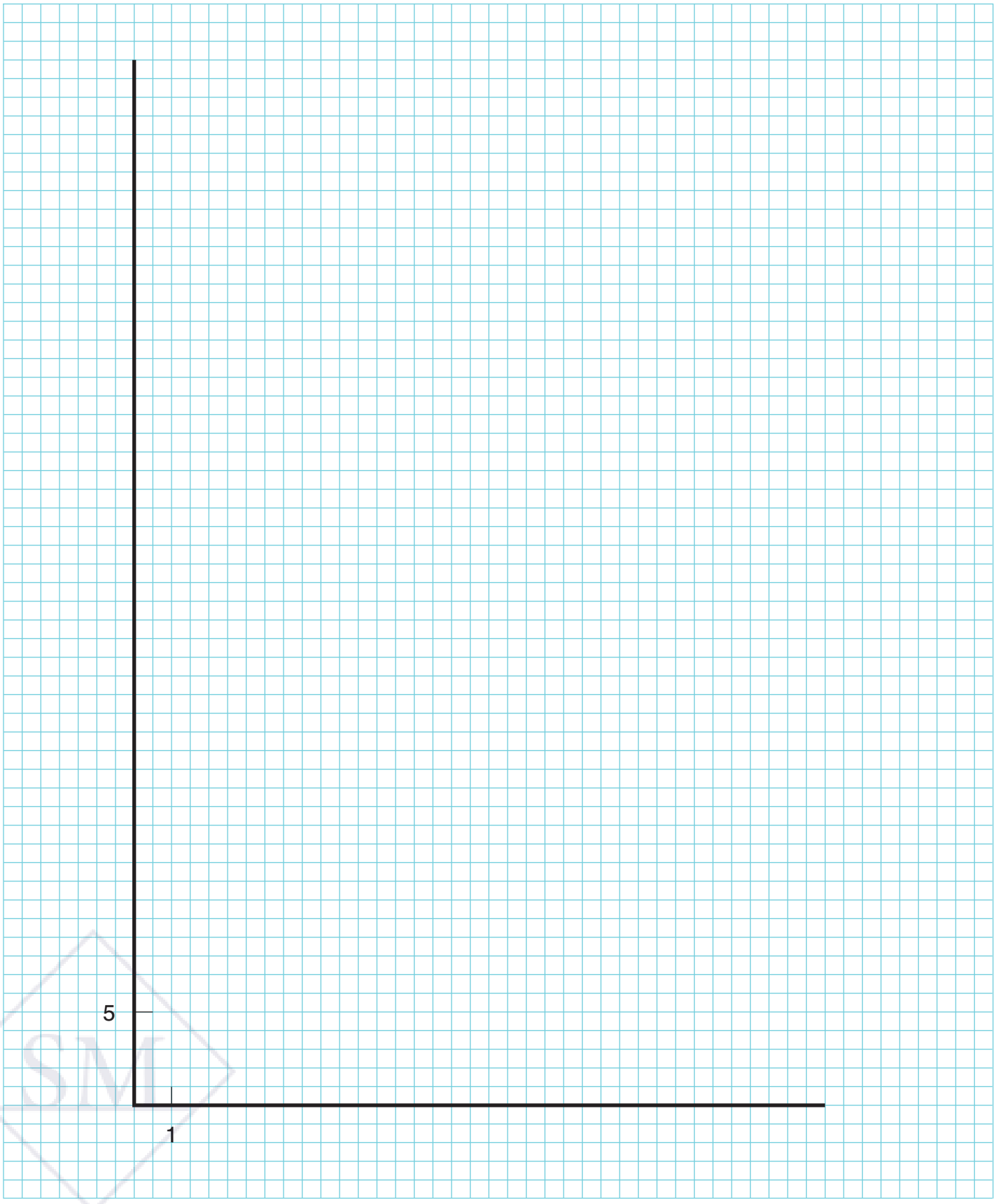
31 Mei recorded the height of her tomato plant every week for the first 16 weeks from when it was planted. The data is shown in the table below.

(a) Complete the line graph on the next page. Include a title, label the axes, and label the increments.

(b) At about how many weeks did the tomato plant's growth rate start slowing down?

(c) Mei forgot to record her plant's height for week 7. From the graph, estimate the height of the plant at 7 weeks.

Weeks	Height (in)
1	2
2	5
3	9
4	13
5	19
6	24
7	
8	34
9	37
10	41
11	45
12	49
13	52
14	53
15	54
16	54

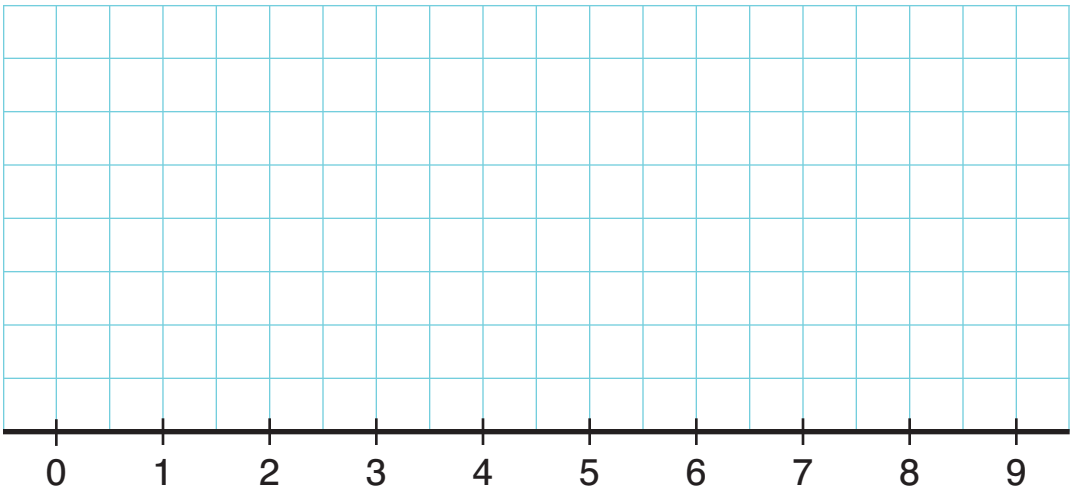

5
1

32 Students in a fourth grade class recorded the number of books they read over the summer, which are shown in the table below.

3	7	2	4	1	8	0	3	1	3	4	2	3	6	2
1	0	3	4	5	5	3	5	2	4	1	6	4	3	9

(a) Use this data to complete the line plot below.

Books Read Over the Summer



(b) What is the most common number of books read?

(c) What is the difference between the least and most books read?

(d) How many students read less than 4 books?

(e) What fraction of the students read more than 4 books?

Answer Key

1 (a) 36,582 (b) 19,035
(c) 520,050 (d) 60,430
(e) 55,060 (f) 150,013

2 (a) 2 (b) 35,252
(c) 625,026 (d) 30,000

3 (a) < (b) >
(c) < (d) >

4

Number	Rounded to the nearest		
	Hundred Thousand	Ten Thousand	Thousand
309,904	300,000	310,000	310,000
729,501	700,000	730,000	730,000
550,000	600,000	550,000	550,000
81,623	100,000	80,000	82,000

5 (a) 113,000 (b) 7,100
(c) 20,000 (d) 480,000
(e) 35,000 (f) 80,000

6 Estimates may vary.
Actual solutions provided.
(a) 100,715
(b) 289,412

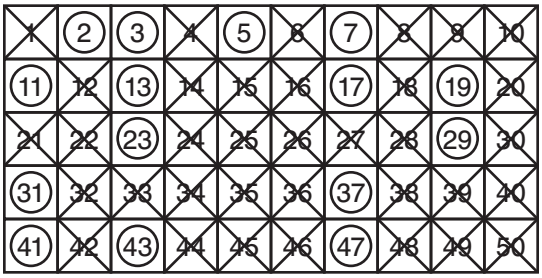
7 (a) 3,770 (b) 39,529
(c) 59,437 (d) 29,978
(e) 5,262 (f) 20,000

8 $13,650

9 (a) 30, 90, 32, 60, 108
(b) 30, 27, 90, 75, 60, 108
(c) 30, 90, 75, 60
(d) 30, 90, 60, 108
(e) 27, 90, 108
(f) 30, 90, 60

10 1:12

11



12 (a) 1, 2, 3, 6
(b) 1, 2, 4, 8, 16, 32
(c) 1

13 (a) 8,400 (b) 2,490
(c) 270,000 (d) 1,393
(e) 138,000 (f) 17,997

14 Estimates may vary.
Actual solutions provided.
(a) 31,670 (b) 261,312
(c) 2,852 (d) 44,517

15 2,712 kg

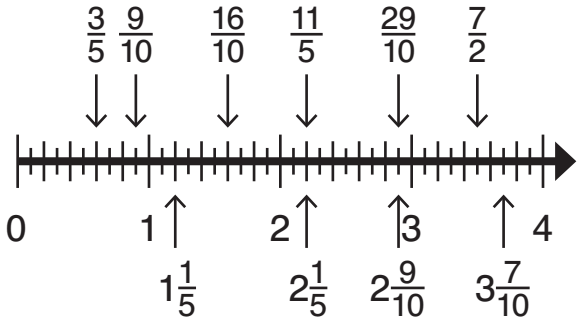
16 (a) 50 (b) 800
(c) 900 (d) 800
(e) 900 (f) 8,000

17 Estimates may vary.
Actual solutions provided.
(a) 155 R4 (b) 78 R4
(c) 968 (d) 1,558 R1

18 520 plum trees

19 (a) $\frac{8}{12}$ (b) $\frac{9}{18}$ (c) $\frac{12}{16}$
(d) $\frac{12}{15}$ (e) $\frac{2}{3}$ (f) $\frac{3}{5}$
(g) $\frac{1}{2}$ (h) $\frac{3}{5}$ (i) $\frac{6}{20}$

20



21 (a) $\frac{33}{5}$ (b) $\frac{30}{7}$
(c) $\frac{31}{8}$ (d) $\frac{37}{6}$

22 $3\frac{3}{7}, \frac{14}{3}, \frac{21}{4}$

23 $7\frac{5}{7}$ L

24 (a) $1\frac{2}{3}$ (b) $1\frac{5}{8}$
(c) $1\frac{8}{21}$ (d) $\frac{4}{9}$
(e) $2\frac{1}{10}$ (f) $\frac{9}{16}$

25 $8\frac{1}{2}$ miles

26 (a) $2\frac{1}{2}$ (b) $5\frac{5}{8}$

(c) $5\frac{3}{20}$ (d) $1\frac{5}{9}$

(e) $6\frac{11}{14}$ (f) $1\frac{7}{15}$

27 (a) $2\frac{5}{8}$ (b) $2\frac{1}{2}$

(c) 6 (d) $5\frac{1}{7}$

(e) $12\frac{1}{2}$ (f) $6\frac{6}{13}$

28 (a) $\frac{1}{8}$ (b) $\frac{1}{5}$

(c) $\frac{2}{3}$ (d) $\frac{1}{2}$

(e) $\frac{6}{11}$ (f) $\frac{1}{2}$

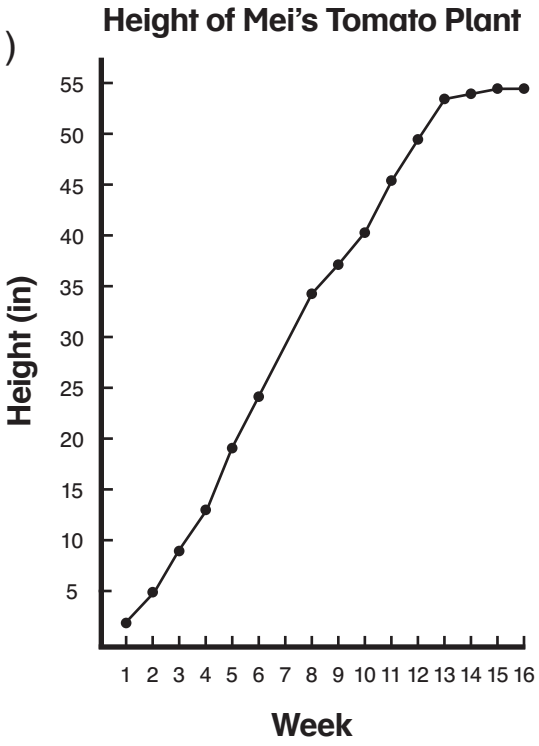
29 (a) $2\frac{1}{4}$ (b) $2\frac{2}{3}$

(c) $\frac{5}{9}$ (d) $3\frac{3}{5}$

(e) 32 (f) $23\frac{1}{3}$

30 24 students

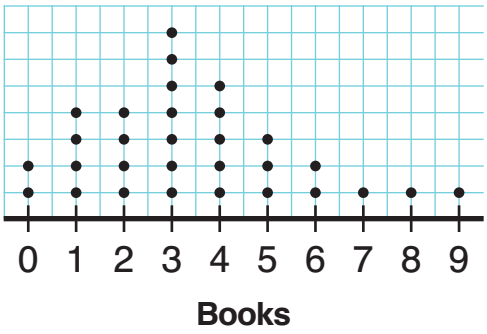
31 (a)



(b) 13 weeks

(c) 29 in

32 (a)



(b) 3 books

(c) 9 books

(d) 17 students

(e) $\frac{4}{15}$ of the students