

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)  $20,002 = \boxed{\phantom{00000}} + 20,000$

(b)  $\boxed{\phantom{00000}} = 30,000 + 5,000 + 200 + 50 + 2$

(c)  $\boxed{\phantom{00000}} = 5,000 + 600,000 + 6 + 20,000 + 20$

(d)  $630,450 = 50 + 400 + \boxed{\phantom{00000}} + 600,000$

3 Write  $>$  or  $<$  in each  $\bigcirc$ .

(a)  $53,363 \bigcirc 53,633$

(b)  $382,641 \bigcirc 328,461$

(c)  $471,365 \bigcirc 471,369$

(d)  $79,965 \bigcirc 79,956$

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)  $100,000 \div 5 =$

(d)  $240,000 \times 2 =$

(e)   $- 10,000 = 25,000$

(f)   $\times 8 = 640,000$

**6** Estimate and then find the sum or difference.

(a)  $32,843 + 67,872 \approx$

$32,843 + 67,872 =$

(b)  $322,475 - 33,063 \approx$

$322,475 - 33,063 =$

+							

-							

**7** Write the missing numbers.

(a)  $6,230 + \boxed{\phantom{0000}} = 10,000$

(b)  $\boxed{\phantom{0000}} + 471 = 40,000$

(c)  $60,000 - 563 = \boxed{\phantom{0000}}$

(d)  $30,000 - 22 = \boxed{\phantom{0000}}$

(e)  $10,000 - \boxed{\phantom{0000}} = 4,738$

(f)  $\boxed{\phantom{0000}} - 1,723 = 18,277$

**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)  $1,400 \times 6 =$

(b)  $830 \times 3 =$

(c)  $30,000 \times 9 =$

(d)  $199 \times 7 =$

(e)  $6 \times 23,000 =$

(f)  $3 \times 5,999 =$

**14** Estimate and then find the exact product.

(a)  $6,334 \times 5 \approx$

(b)  $32,664 \times 8 \approx$

$6,334 \times 5 =$

$32,664 \times 8 =$

x									
<hr/>									

x									
<hr/>									

(c)  $92 \times 31 \approx$

(d)  $627 \times 71 \approx$

$92 \times 31 =$

$627 \times 71 =$

x									
<hr/>									

x									
<hr/>									

- 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)  $934 \div 6 \approx$

6	9	3	4

(b)  $628 \div 8 \approx$

8	6	2	8

(c)  $3,872 \div 4 \approx$

4	3	8	7	2

(d)  $7,791 \div 5 \approx$

5	7	7	9	1

- 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)  $\frac{6}{9} = \frac{\boxed{8}}{\boxed{\quad}}$

(b)  $\frac{1}{2} = \frac{\boxed{\quad}}{\boxed{18}}$

(c)  $\frac{3}{4} = \frac{\boxed{12}}{\boxed{\quad}}$

(d)  $\frac{4}{5} = \frac{\boxed{\quad}}{\boxed{15}}$

(e)  $\frac{16}{24} = \frac{\boxed{2}}{\boxed{\quad}}$

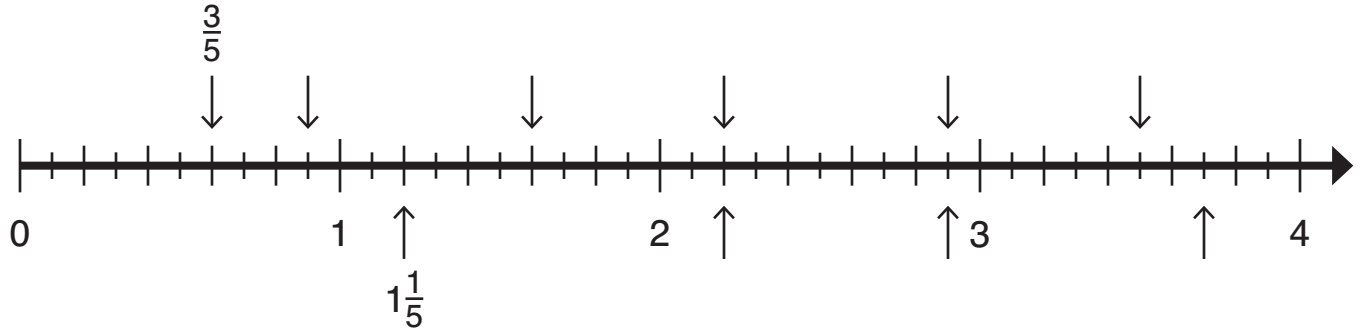
(f)  $\frac{9}{15} = \frac{\boxed{\quad}}{\boxed{5}}$

(g)  $\frac{4}{8} = \frac{\boxed{1}}{\boxed{\quad}}$

(h)  $\frac{6}{10} = \frac{\boxed{\quad}}{\boxed{5}}$

(i)  $\frac{9}{30} = \frac{\boxed{\quad}}{\boxed{20}}$

- 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?



**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)  $\frac{7}{9} \times 30$

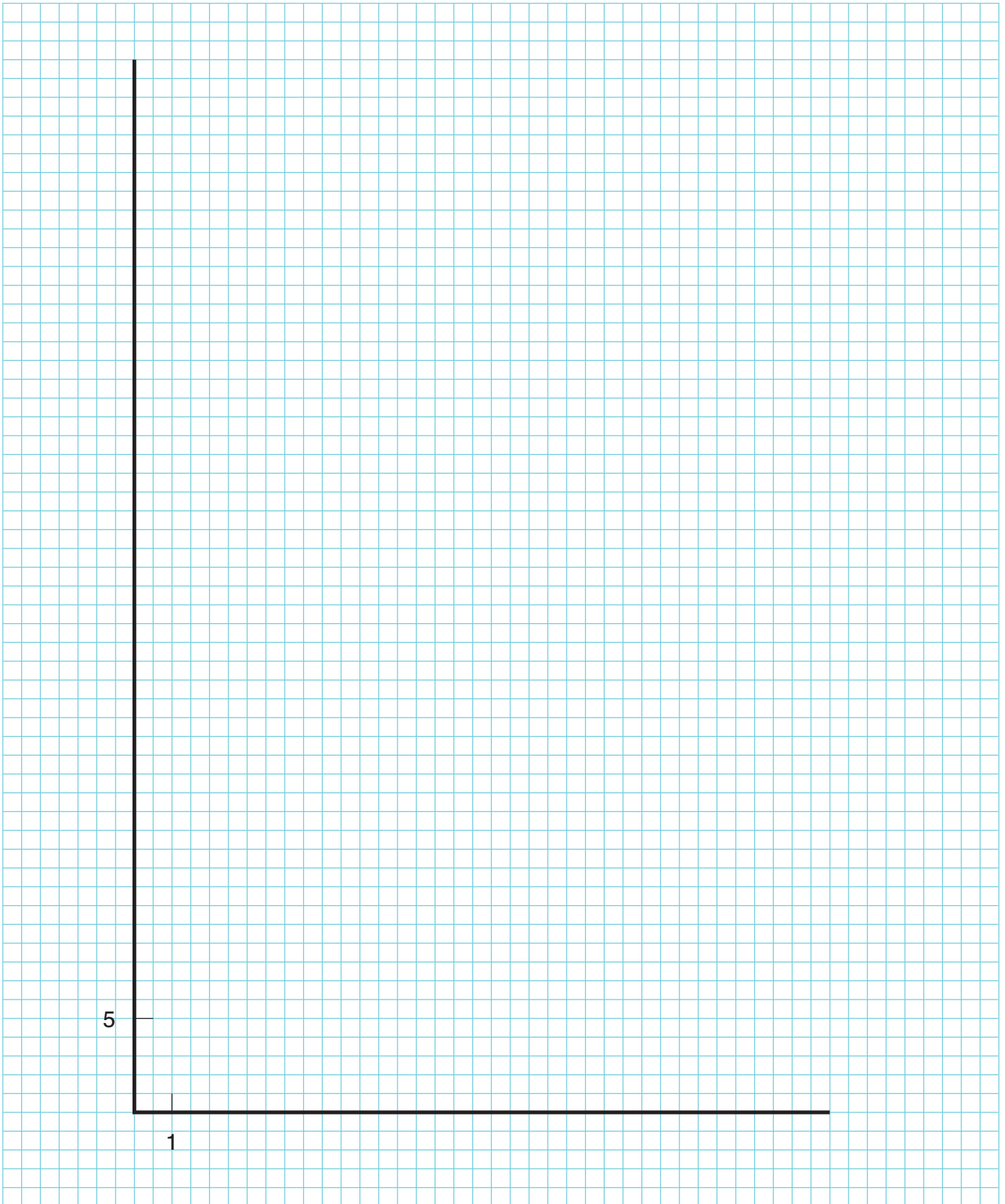
**30** In a fourth grade class,  $\frac{1}{3}$  of the students play soccer,  $\frac{1}{4}$  of the students play basketball,  $\frac{1}{12}$  of the students play football, and the remaining 8 students do not play any sports. How many students are in the class?



- 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.

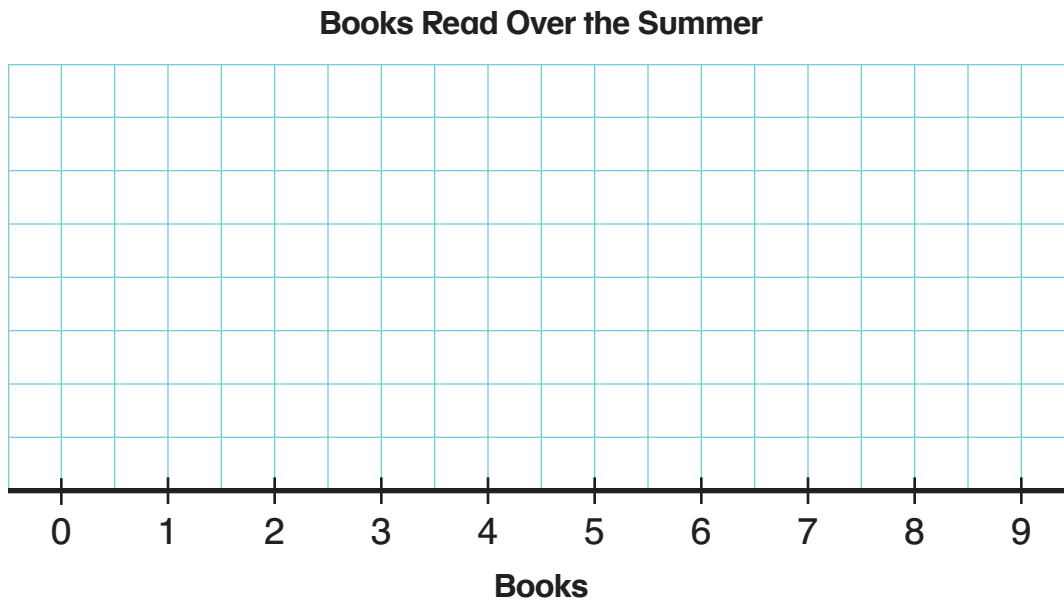
Weeks	Height (in)
1	2
2	5
3	9
4	13
5	19
6	24
7	
8	34
9	37
10	41
11	45
12	49
13	52
14	53
15	54
16	54



- 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.



- (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**

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

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

## Answer Key

- 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.

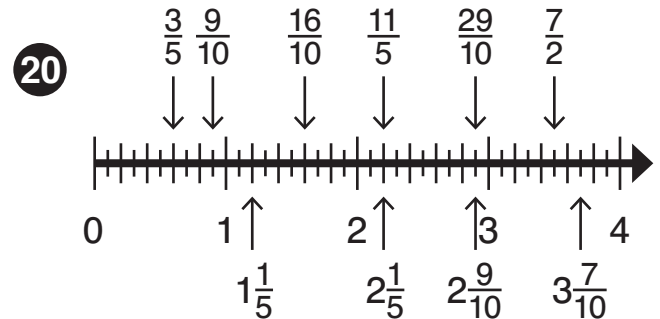
- (a) 155 R4 (b) 78 R4  
 (c) 968 (d) 1,558 R1

- 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)  $\frac{6}{20}$



- 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)  $\frac{9}{16}$

## Answer Key

**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)  $\frac{1}{2}$

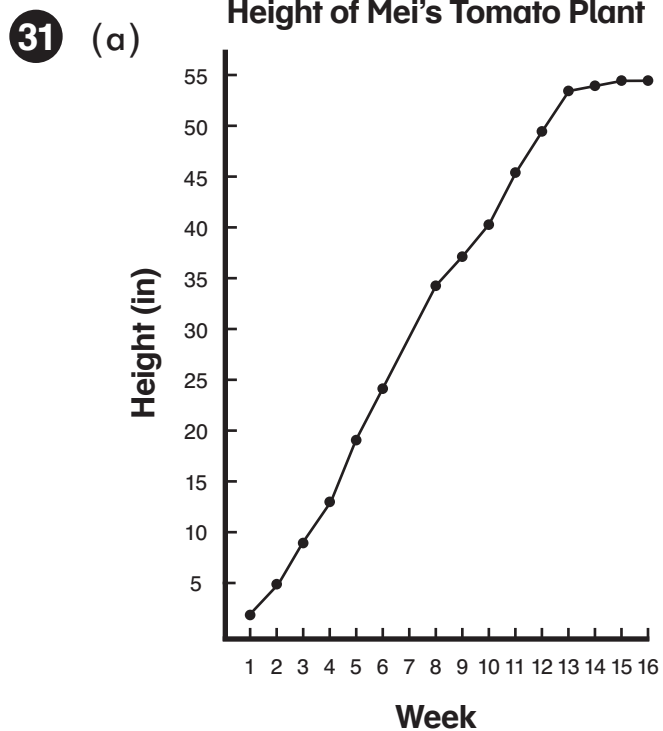
(e)  $\frac{6}{11}$  (f)  $\frac{1}{2}$

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

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

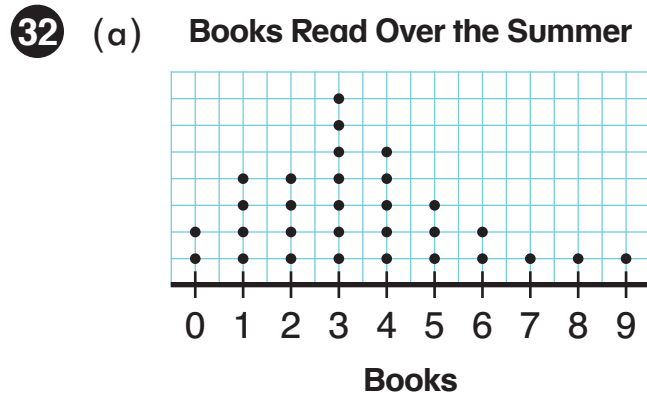
(e) 32 (f)  $23\frac{1}{3}$

**30** 24 students



(b) 13 weeks

(c) 29 in



(b) 3 books

(c) 9 books

(d) 17 students

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