Study Link 5.1

① 15 counters $\frac{3}{5} = \frac{15}{1} \times \frac{3}{5} =$ ÷ these — Multiply the answer times this $3 \times 3 = 9$ counters

② $18 \times \frac{7}{9} = 2 \times 7 = 14$ counters

③ $\frac{16 \text{ counters}}{20 \text{ counters}} = \frac{4}{5}$ of the set ÷ top & bottom by 4

④ $\frac{45 \text{ counters}}{50 \text{ counters}} = \frac{9}{10}$ of the set ÷ top & bottom by 5

⑤ $35 \times 2 = 70$

⑥ 12 counters ÷ $3 = 4 \times 4 = 16$

$12 \div \frac{3}{4} \times$

⑦ $24 \times \frac{5}{8} \div$ $3 \times 5 = 15$ $\quad 24 - 15 = 9$ miles to go

(8) $8 \div 2 = 5$ ×

$4 \times 5 = 20$ the total amount for the bill

Jen's part paid

$20 - 8 = 12$ Amount Heather paid

Practice

(9) $42 \div 3 = 14$

$3 \overline{)42}$

$-3\downarrow$

12

12

0

14

(10) $420 \div 3 = 140$

$3 \overline{)420}$

$-3\downarrow$

12

$12\downarrow$

0

-0

140

(11) $420 \div 30 = 14$

$30 \overline{)420}$

30

120

-120

(12) $4200 \div 30 = 140$

$30 \overline{)4,200}$

30

120

120

00

-0

0

Study Link 5.2

① 2 wholes
½ of another
2 ½ Mixed Number

Take the bottom × the whole & add the top
2×2+1 = 5/2 Fraction
Bottom stays the same

② 1 whole
1 2 halves
4 out of 6 parts
2 4/6 Mixed Number

6×2+4 = 16/6 Fraction

③ 1 whole
2 out of 3 parts
1 2/3 Mixed Number

3×1+2 = 5/3 Fraction

④ 1 2 halves
2 out of 3 parts
3 out of 6 parts
2 1/6 Mixed Number

6×2+1 = 13/6 Fraction

⑤ 1 ½ 3 halves
1 3 out of 3 parts
2 out of 6 parts
2 5/6

6×2+5 = 17/6 Fraction

⑥ Answers will vary

Practice

⑦
$$\begin{array}{r} 262 \\ 7\overline{)1834} \\ -14\downarrow \\ \hline 43 \\ -42\downarrow \\ \hline 14 \\ 14 \\ \hline \end{array}$$

⑧
$$\begin{array}{r} 32\ R4 \\ 6\overline{)196} \\ -18\downarrow \\ \hline 16 \\ 12 \\ \hline 4 \end{array}$$
or $32\frac{4}{6}=\frac{2}{3}$

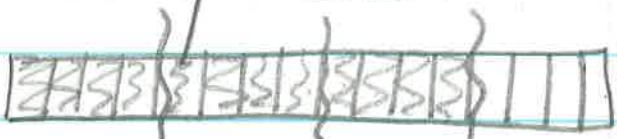
⑨
$$\begin{array}{r} 123 \\ 8\overline{)984} \\ -8\downarrow \\ \hline 18 \\ -16\downarrow \\ \hline 24 \\ 24 \\ \hline \end{array}$$

⑩
$$\begin{array}{r} 72 \\ 9\overline{)651}\ R3 \\ 63 \\ \hline 21 \\ -18 \\ \hline 3 \end{array}$$
or $72\frac{3}{9}=\frac{1}{3}$

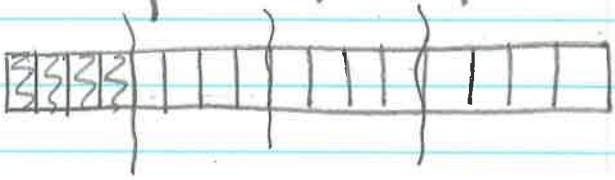
Study Link 5.3

① $\frac{1}{2} = \frac{4}{8}$

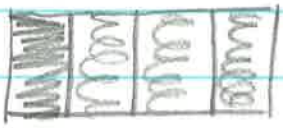
② $\frac{3}{4} = \frac{12}{16}$



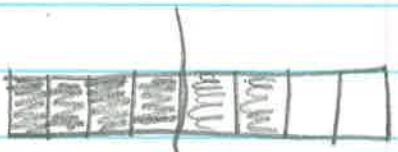
③ $\frac{1}{4} = \frac{2}{8} = \frac{4}{16}$



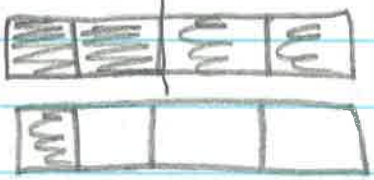
④ $\frac{1}{4} + \frac{3}{4} = \frac{4}{4} = 1$



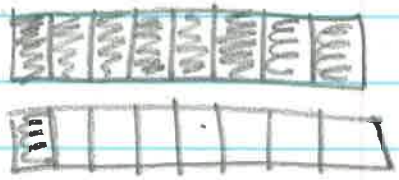
⑤ $\frac{1}{2} + \frac{2}{8} = \frac{6}{8} = \frac{3}{4}$



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



⑦ $\frac{3}{4} + \frac{3}{8} = \frac{9}{8} = 1\frac{1}{8}$



⑧ Answers will vary

Practice

⑨
$$\begin{array}{r} 297 \\ 3\overline{)891} \\ -6\downarrow \\ \hline 29 \\ -27\downarrow \\ \hline 21 \end{array}$$

⑩
$$\begin{array}{r} 148\ R3 \\ 6\overline{)891} \\ -6\downarrow \\ \hline 29 \\ 24\downarrow \\ \hline 51 \\ 48/3 \end{array}$$

or $148\frac{3}{6} = \frac{1}{2}$

(11)

12 | 891	
-600	50 (12×50)
291	
-240	20 (12×20)
4811	
-48	4 (12×4)
3	74 R3 Answer

(12)

24 | 891	
240	10 (24×10)
5651	
480	20 (24×20)
171	
120	5 (24×5)
4811	
48	2 (24×2)
3	37 R3 Answer

suggested ways of solving.

Study Link 5.4

① $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$

② $\frac{3}{10} \div \frac{2}{2} \neq \frac{1}{5}$

③ $\frac{7}{14} \neq \frac{8}{15}$

④ $\frac{10}{12} \div \frac{2}{2} = \frac{5}{6}$

⑤ $\frac{16}{100} \div \frac{2}{2} = \frac{8}{50}$

⑥ $\frac{36}{72} \div \frac{36}{36} = \frac{1}{2}$

⑦ $\frac{7}{12} \times \frac{3}{3} = \frac{21}{36}$

⑧ $\frac{8}{3} \times \frac{2}{2} = \frac{16}{6}$

⑨ $\frac{3}{5} \times \frac{2}{2} = \frac{\boxed{6}}{10}$

⑩ $\frac{2}{3} \times \frac{7}{7} = \frac{14}{\boxed{21}}$

⑪ $\frac{44}{55} \div \frac{11}{11} = \frac{\boxed{4}}{5}$

⑫ $\frac{\boxed{40}}{4 \times 10} = \frac{4 \times 3}{4 \times 10}$

⑬ $\frac{35}{60} \div \frac{5}{5} = \frac{7}{\boxed{12}}$

⑭ $\frac{9}{16} \times \frac{5}{5} = \frac{45}{\boxed{80}}$

⑮ $\frac{9}{36} \times \frac{3}{3} \quad \frac{\boxed{27}}{108}$

⑯ $\frac{7}{\boxed{56}} = \frac{7 \times 1}{7 \times 8}$

⑰ $\frac{30}{135} \div \frac{5}{5} = \frac{\boxed{6}}{27}$

⑱ $\frac{10}{16} \times \frac{7}{7} \quad \frac{\boxed{70}}{112}$

Practice

(19)
$$
\begin{array}{r}
7.04 \\
7\overline{)\$49.28} \\
-49\downarrow \\
\hline
02 \\
-0\downarrow \\
\hline
28 \\
-28 \\
\hline
0
\end{array}
$$

(20)
$$
\begin{array}{r}
\$20.03 \\
15\overline{)\$300.45} \\
-30\downarrow \\
\hline
00 \\
-0\downarrow \\
\hline
04 \\
-0\downarrow \\
\hline
45 \\
45 \\
\hline
0
\end{array}
$$

(21)
$$
\begin{array}{r}
17 \\
21\overline{)367} \\
21\downarrow \\
\hline
157 \\
147 \\
\hline
10
\end{array}
\quad R10 \text{ or } 17\tfrac{10}{21}
$$

(22)
$$
\begin{array}{r}
80 \\
8\overline{)644} \\
64 \\
\hline
04 \\
-0 \\
\hline
4
\end{array}
\quad R4 \text{ or } 80\tfrac{4}{8} = \tfrac{1}{2}
$$

Study Link 5.5

① 29.94 30.38 30.72 31.05

② 0.44 0.4
1.89 1.9
20.72 20.7
23.96 24.0
60.87 60.9
160.58 160.6
181.30 181.3
296.37 296.4
297.85 297.9
315.98 316.0

Practice

③
$$\begin{array}{r} 24 \\ 32\overline{)768} \\ -64\downarrow \\ \hline 128 \\ -128 \\ \hline 0 \end{array}$$

$24 \times 32 = 768$
$32 \times 24 = 768$
$768 \div 24 = 32$
$768 \div 32 = 24$

Study Link 5.6

① 7.79 miles $7\frac{79}{100}$

7.78 miles $7\frac{78 \div 2}{100 \div 2} = \frac{39}{50}$

6.21 miles $6\frac{21}{100}$

4.7 miles $4\frac{7}{10}$

3.6 miles $3\frac{6 \div 2}{10 \div 2} = \frac{3}{5}$

② $\frac{15}{45}$ ← Number of letters that are g
↖ total letters

$\frac{15 \div 15}{45 \div 15} = \frac{1}{3}$

a.

b. $\frac{9 \div 9}{45 \div 9} = \frac{1}{5}$

c. $\frac{3 \div 3}{45 \div 3} = \frac{1}{15}$

Practice

④
$$\begin{array}{r} 714 \text{ R6} \\ 10\overline{)7,146} \\ -70\downarrow \\ \hline 14 \\ -10\downarrow \\ \hline 46 \\ -40 \\ \hline 6 \end{array}$$

or $714\frac{6 \div 2}{10 \div 2} = \frac{3}{5}$

(5)

$$\begin{array}{r} 8\text{ R }4 \\ 10\overline{)84} \\ -80 \\ \hline 4 \end{array}$$

or $\frac{4 \div 2}{10 \div 2} = \frac{2}{5}$

(6)

$$\begin{array}{r} 67\text{ R }5 \\ 10\overline{)675} \\ -60\downarrow \\ \hline 75 \\ 70 \\ \hline 5 \end{array}$$

or $67\frac{5 \div 5}{10 \div 5} = \frac{1}{2}$

Study Link 5.7

Sample Answers

① 0.00 1.00
0.25, 0.50, 0.75

② 2.00 3.00
2.25, 2.50, 2.75

③ 0.60 0.80
0.65, 0.70, 0.775

④ 0.30 0.40
0.325, 0.330, 0.375

⑤ 0.060 0.050
0.059, 0.055, 0.051

⑥ 0.53

⑦ 0.2

⑧ 0.77

⑨ $0.\overline{8}$

⑩ 0.051

⑪ 0.043
0.050
0.100
0.120
0.200
0.600
0.780

Practice

⑫
$$
\begin{array}{r}
\$7.06 \\
91\overline{)\$63.54} \\
-63 \\
\hline
05 \\
-0 \\
\hline
54 \\
54 \\
\hline
0
\end{array}
$$

(13)

45 | 287
180 | 4 (45×4)
107
90 | 2 (45×2)
17 | 6 R 17 Answer

(14)

$$\begin{array}{r} 81 \\ 7\overline{)567} \\ -56\downarrow \\ \hline 07 \\ -7 \\ \hline 0 \end{array}$$

(15)

$$\begin{array}{r} 694 \\ 7\overline{)4861}\ R3 \\ -42\downarrow \\ \hline 66 \\ 63\downarrow \\ \hline 31 \\ 28 \\ \hline 3 \end{array}$$

Study Link 5.8

① $\frac{3 \times 25}{4 \times 25} \frac{75}{100} = 0.75 = 75\%$

$\frac{14 \div 2}{16 \div 2} \frac{7}{8}$

$8\overline{)7.000} = .875 = 88\%$

-64

60

-56

40

$\frac{15 \times 4}{25 \times 4} = \frac{60}{100} = .60 = 60\%$

$\frac{17}{20} \times \frac{5}{5} = \frac{85}{100} = .85 = 85\%$

$\frac{3}{8} = 8\overline{)3.000} = .375 = 38\%$

-24

60

-56

40

-40

③ Look at their percents

$38\% = 3/8$

$60\% = 15/25$

$75\% = 3/4$

$85\% = 17/20$

$88\% = 14/16$

④ $\overset{1}{6}5$ was $\frac{1}{2}$

$\underline{65}$

$\$130$ was Katie's $

⑤ $\frac{70}{100} \div \frac{10}{10} = \frac{7}{\boxed{10}}$ ← Questions on the test.

Practice

⑥
$$\begin{array}{r} 97 \text{ R5} \\ 10\overline{)975} \\ -90\downarrow \\ \hline 75 \\ -70 \\ \hline 5 \end{array}$$

⑦
$$\begin{array}{r} 48 \\ 20\overline{)975} \text{ R15} \\ -80\downarrow \\ \hline 175 \\ -160 \\ \hline 15 \end{array}$$

⑧
$$\begin{array}{r} 32 \text{ R15} \\ 30\overline{)975} \\ -90\downarrow \\ \hline 75 \\ -60 \\ \hline 15 \end{array}$$

⑨
$$\begin{array}{r} 24 \\ 40\overline{)975} \text{ R15} \\ -80 \\ \hline 175 \\ -160 \\ \hline 15 \end{array}$$

Study Link 5.9

① The 1st & 2nd graphs should be circled

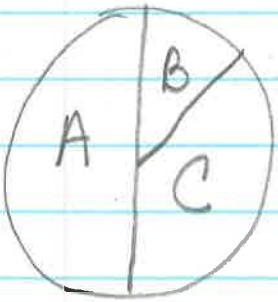
② Bar graph has days on the side

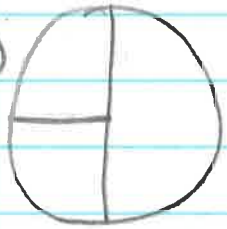
③ Line graph shows the increases & decreases in temperature.

④ See explanations

Study Link 5.10

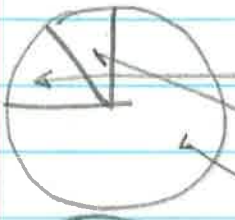
① a. 50% b. 15% c. 35%



② 

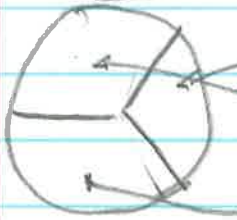
25%
25%
50%

Answers will vary on what the percentage represent



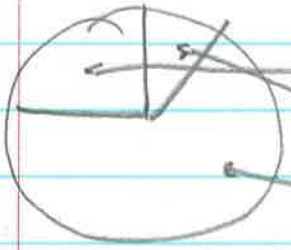
1/8
1/8
3/4

(Last Set of Data)



30%
30%
40

(1st Set of Data)



25%
10%
65%

(Middle Set of Data)

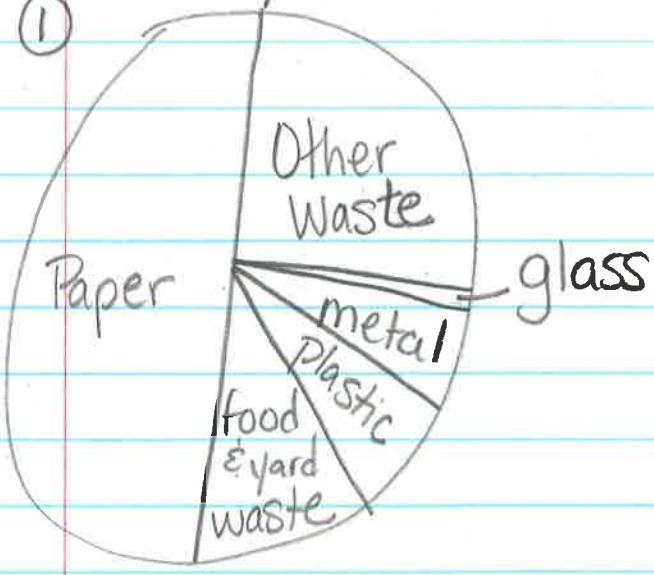
④
$$\begin{array}{r} 633 \\ 6\overline{)3798} \\ -36 \\ \hline 19 \\ -18 \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$$

⑤
$$\begin{array}{r} 1,163 \text{ R4} \\ 7\overline{)8,145} \\ -7 \\ \hline 11 \\ -7 \\ \hline 44 \\ -42 \\ \hline 25 \\ -21 \\ \hline 4 \end{array}$$

⑥
$$\begin{array}{r} 10 \text{ R1} \\ 2\overline{)21} \\ -2 \\ \hline 01 \\ -0 \\ \hline 1 \end{array}$$

⑦
$$\begin{array}{r} 100 \text{ R4} \\ 8\overline{)804} \\ -8 \\ \hline 00 \\ -0 \\ \hline 04 \\ -0 \\ \hline 4 \end{array}$$

Study Link 5.11

① 

Practice

② $23\overline{)391}$ → -23 → 161 → -161 → 0 ; quotient 17

③ $17\overline{)391}$ → -34 → 51 → -51 → 0 ; quotient 23

④ $43\overline{)387}$ → -387 → 0 ; quotient 9

⑤ $37\overline{)259}$ → -259 → 0 ; quotient 7

Study Link 5.12

① $\frac{3}{8}$ of $\frac{24}{1} = \frac{72}{8} = 9$ cookies Thomas ate

$\frac{2}{5}$ of $\frac{25}{1} = \frac{50}{5} = 10$ cookies Mona ate

② 2 · 24
3 ×

$12 \times 3 = 36$ 5th Graders
$36 - 24 = 12$ were sick

③ 3 ×
7 ÷ 21

$3 \times 3 = 9$ miles walked before lunch

Practice

④
$$\begin{array}{r} 3 \\ 52\overline{)156} \\ -156 \\ \hline 0 \end{array}$$

⑤
$$\begin{array}{r} 24 \\ 24\overline{)576} \\ -48\downarrow \\ \hline 96 \\ -96 \\ \hline 0 \end{array}$$

⑥
$$\begin{array}{r} 22 \\ 13\overline{)286} \\ -26 \\ \hline 26 \\ -26 \\ \hline 0 \end{array}$$

⑦
$$\begin{array}{r} 24 \\ 22\overline{)4528} \\ -44\downarrow \\ \hline 88 \\ -88 \\ \hline 0 \end{array}$$