Chapter 4 - Study Guide

① $\dfrac{3\times2}{5\times2} \rightarrow \dfrac{6}{10} \rightarrow \boxed{0.6; B}$

⑥ $-\dfrac{3}{4} \bigcirc -\dfrac{11}{12}$

12: ⑫, 24, 36, ...
4: 4, ⑫, 16, 20, 24 ...

LCD = 12

$-\dfrac{3\times3}{4\times3} \rightarrow \dfrac{-9}{12} \quad \rightsquigarrow \quad -\dfrac{9}{12} \bigcirc\!\!> -\dfrac{11}{12}$

$\boxed{>; G}$

② $2\dfrac{4}{9} \rightarrow 9\overline{)4.0000}$

$\boxed{2.\overline{4}}$

$\boxed{G}$

$9\overline{)4.0000}$ quotient 0.444
$-0 \downarrow$
40
$-36 \downarrow$
40
-36
40
-36
40

③ $0.375 \quad \dfrac{375 \div 125}{1000 \div 125} = \boxed{\dfrac{3}{8}; B}$

⑦ $15\dfrac{3}{4} + \dfrac{5}{8}$

$\dfrac{63}{4} + \dfrac{5}{8}$

8: ⑧, 16, 24, ...
4: 4, ⑧ .

LCD = 8

$\dfrac{63\times2}{4\times2} \rightarrow \dfrac{126}{8}$

$\dfrac{126}{8} + \dfrac{5}{8} = \dfrac{126+5}{8} = \dfrac{131}{8}$

$8\overline{)131}$ quotient 16
$-8 \downarrow$
51
-48
3

$\boxed{16\dfrac{3}{8}; B}$

④ $\dfrac{11}{15}, \dfrac{5}{6}$

15: 15, ㉚, 45, ...
6: 6, 12, 18, 24, ㉚.

LCD = $\boxed{30; H}$

⑤ $6\dfrac{15}{28} \bigcirc 6\dfrac{5}{9}$

28: 28, 56, ...
9: 9, 18, 27, 36, 45, 54 ...

✳ NO LCD → Change to Decimals

$28\overline{)15.000}$ quotient $0.53...$
$-140 \downarrow$
100
$-84 \downarrow$
160

$9\overline{)5.00}$ quotient $.55...$
$-45 \downarrow$
50

$6\dfrac{15}{28} \bigcirc 6\dfrac{5}{9}$

$6.53... \quad \bigcirc\!\!< \quad 6.\overline{5}$

$\boxed{<; A}$

$6\,|\,5\,|\,3...$
$6\,|\,5\,|\,5...$

⑧ $\frac{1}{8} + \left(-\frac{3}{16}\right)$

16: ⑯, 32, ...
8: 8, ⑯, ...
LCD = 16

$\frac{1 \times 2}{8 \times 2} \to \frac{2}{16}$

$\frac{2}{16} + \left(\frac{-3}{16}\right) = \frac{2+(-3)}{16} = \frac{-1}{16}$

$\boxed{\dfrac{-1}{16} ; \text{I}}$

⑭

$\frac{1}{4}$ $\frac{2}{5}$ | $\frac{2}{5}$ $\frac{1}{4}$
$\frac{2}{5}$ | $\frac{2}{5}$
$\frac{1}{4}$ $\frac{1}{4}$
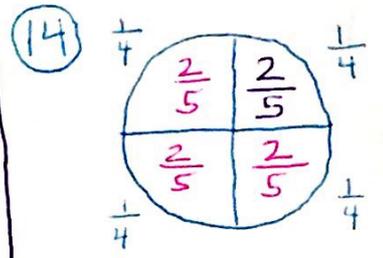
$\frac{2}{5} \times 4$
$\frac{2}{5} \times \frac{4}{1} = \frac{8}{5} = \boxed{1\frac{3}{5} ; \text{H}}$

⑨ $8\frac{2}{7} + 10\frac{4}{7}$

$\frac{58}{7} + \frac{74}{7} = \frac{58+74}{7} = \frac{132}{7} \to$

$7\overline{)132}$
$\underline{-7\downarrow}$
$5\,\cancel{6}12$
$\underline{-56}$
6

$\to \boxed{18\frac{6}{7} ; \text{C}}$

⑩ $\frac{2}{21} \times \frac{7}{5} = \frac{2 \times 7}{21 \times 5} = \frac{14 \div 7}{105 \div 7}$ $\boxed{\frac{2}{15} ; \text{I}}$

⑪ $\frac{7}{8} - \frac{3}{8} = \frac{7-3}{8} = \frac{4 \div 2}{8 \div 2} \to \frac{2 \div 2}{4 \div 2} \to \frac{1}{2}$ $\boxed{\frac{1}{2} ; \text{A}}$

⑫ $4\frac{7}{9} - 3\frac{2}{3}$

$\frac{43}{9} - \frac{11}{3}$

9: ⑨, 18, 27, ...
3: 3, 6, ⑨, ...
LCD = 9

$\frac{11 \times 3}{3 \times 3} \to \frac{33}{9}$

$\frac{43}{9} - \frac{33}{9} = \frac{43-33}{9}$

$= \frac{10}{9}$

$= \boxed{1\frac{1}{9} ; \text{H}}$

⑬ $\frac{3}{4} \div 4\frac{1}{4}$

$\frac{3}{4} \div \frac{17}{4}$

Ⓚ Ⓒ Ⓕ

$\frac{3}{4} \times \frac{4}{17} = \frac{3 \times 4}{4 \times 17} = \frac{12}{68}$

$\frac{12 \div 2}{68 \div 2} \to \frac{6 \div 2}{34 \div 2} \to \boxed{\frac{3}{17} ; \text{A}}$

(15) Doubled = × 2

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

$\downarrow \quad \downarrow \downarrow$

$\frac{1}{4} \times \frac{2}{1} = \frac{1 \times 2}{4 \times 1} = \frac{2 \div 2}{4 \div 2} = \boxed{\frac{1}{2}} ; D$

(16)

$\frac{8}{8} - \frac{3}{8} = \frac{8-3}{8}$
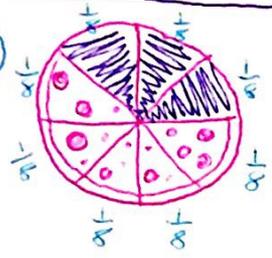
$\rightarrow = \boxed{\frac{5}{8}} ; F$

(19)

$\frac{78 \text{ Ft}}{1} \times \frac{0.30 \text{ m}}{1 \text{ Ft}} = \frac{78 \times 0.30}{1 \times 1}$

$= \frac{23.4}{1}$

$= \boxed{23.4 ; C}$

(17)

$\frac{\text{\# units you have}}{1} \times \frac{\text{units you want}}{\text{units you have}} = \text{\# units you want}$

$\frac{37 \text{ mL}}{1} \times \frac{0.0338 \text{ fl oz}}{1 \text{ mL}} = \frac{37 \times 0.0338}{1 \times 1} = \frac{1.2506 \text{ fl oz}}{1}$

$= \boxed{1.25 ; D}$

(18)

$\frac{47 \text{ Kg}}{1} \times \frac{1 \text{ lb}}{0.4536 \text{ Kg}} = \frac{47 \times 1}{1 \times 0.4536} = \frac{47}{0.4536}$

$0.4536 \overline{)47.0000}$

$\boxed{103.62 ; F}$

$$
\begin{array}{r}
103.615 \\
4536 \overline{)470000.000} \\
-4536 \\
\hline
1640 \\
-0 \\
\hline
16400 \\
-13608 \\
\hline
27920 \\
-27216 \\
\hline
7040 \\
\end{array}
$$

25040