

Math 20
Chapter 3 Review Solutions

① $102 = 2 \cdot 3 \cdot 17$ ①

② $420 = 2 \cdot 2 \cdot 3 \cdot 5 \cdot 7$ or
 $= 2^2 \cdot 3 \cdot 5 \cdot 7$ ②

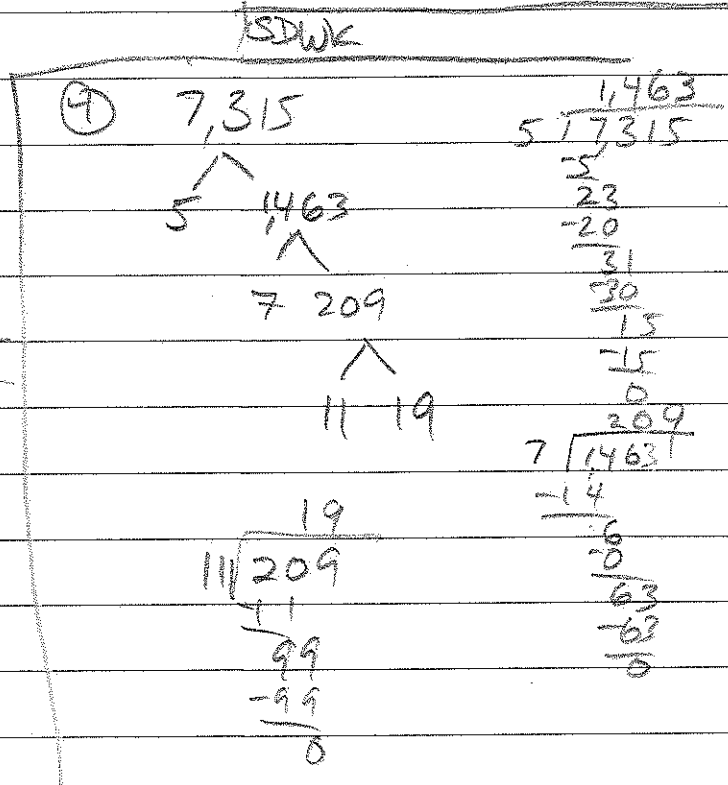
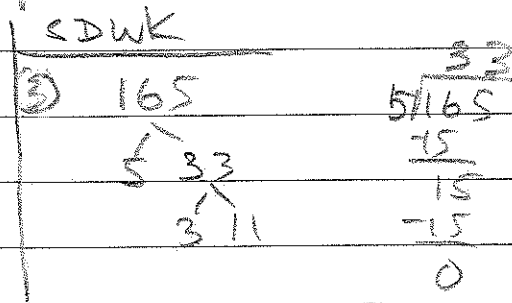
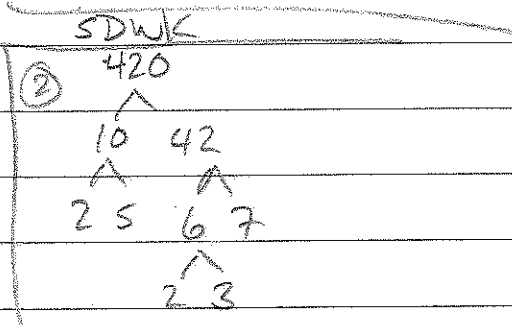
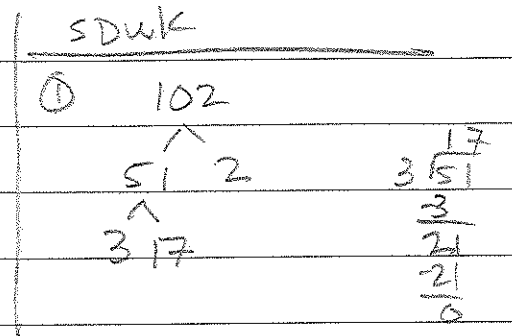
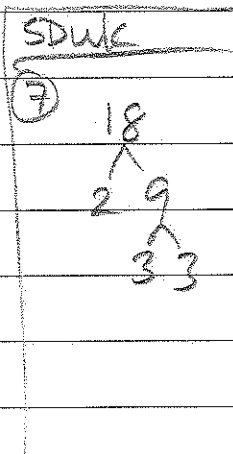
③ $165 = 3 \cdot 5 \cdot 11$ ③

④ $7,315 = 5 \cdot 7 \cdot 11 \cdot 19$ ④

⑤ $\frac{22}{55} = \frac{2 \cdot 11}{5 \cdot 11}$ ⑤
 $= \frac{2}{5}$

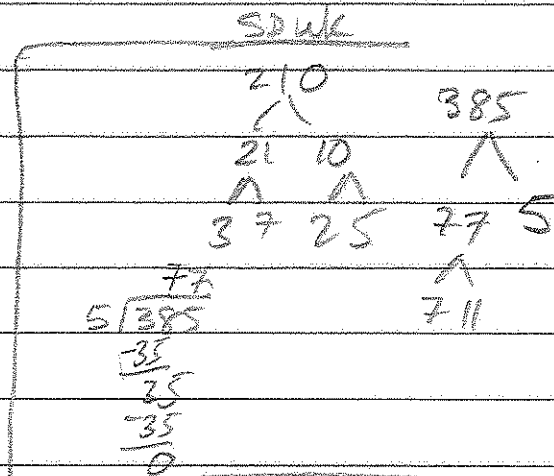
⑥ $\frac{14}{49} = \frac{2 \cdot 7}{7 \cdot 7}$ ⑥
 $= \frac{2}{7}$

⑦ $\frac{10}{18} = \frac{2 \cdot 5}{2 \cdot 3 \cdot 3}$ ⑦
 $= \frac{5}{3 \cdot 3}$
 $= \frac{5}{9}$ ⑦

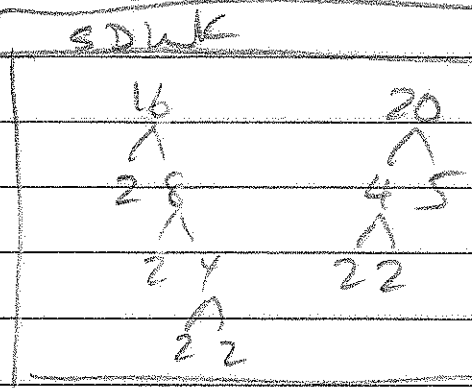


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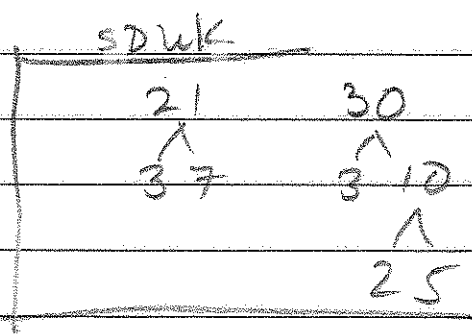
$$\begin{aligned} \textcircled{8} \quad \frac{210}{385} &= \frac{2 \cdot 3 \cdot 5 \cdot 7}{5 \cdot 7 \cdot 11} \\ &= \frac{2 \cdot 3}{11} \\ &= \frac{6}{11} \end{aligned} \quad \textcircled{y}$$



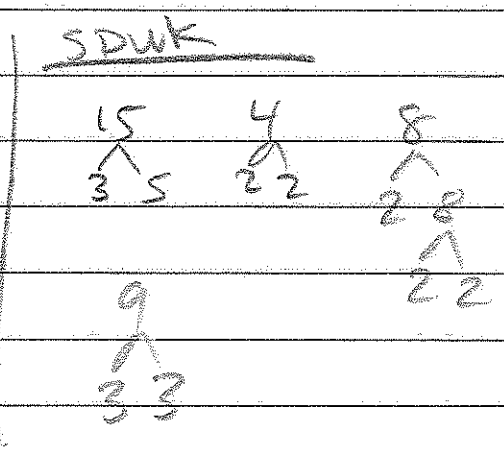
$$\begin{aligned} \textcircled{9} \quad \frac{16a}{20a} &= \frac{2 \cdot 2 \cdot 2 \cdot 2 \cdot a}{2 \cdot 2 \cdot 5 \cdot a} \\ &= \frac{2 \cdot 2}{5} \\ &= \frac{4}{5} \end{aligned} \quad \textcircled{k}$$



$$\begin{aligned} \textcircled{10} \quad \frac{21a}{30a} &= \frac{3 \cdot 7 \cdot a}{2 \cdot 3 \cdot 5 \cdot a} \\ &= \frac{7}{2 \cdot 5} \\ &= \frac{7}{10} \end{aligned} \quad \textcircled{e}$$



$$\begin{aligned} \textcircled{11} \quad \text{the product of } \frac{15}{8} \text{ and } \frac{4}{9} \\ &= \frac{15}{8} \cdot \frac{4}{9} = \frac{3 \cdot 5 \cdot 2 \cdot 2}{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3} \\ &= \frac{5}{2 \cdot 3} = \frac{5}{6} \end{aligned} \quad \textcircled{o}$$



Chapter 3 Review Solutions

⑫ the quotient of 12 and $3\frac{1}{6}$

$$= 12 \div (3\frac{1}{6})$$

$$= \frac{12}{1} \div \frac{(3 \cdot 6 + 1)}{6}$$

$$= \frac{12}{1} \div \frac{19}{6}$$

$$= \frac{12 \cdot 6}{1 \cdot 19}$$

$$= \frac{72}{19} \text{ or } 3\frac{15}{19} \quad \textcircled{p}$$

↑
Reduced
to lowest
terms

↑
Mixed
Number

sdwk

$$3\frac{1}{6} = \frac{3 \cdot 6 + 1}{6}$$

$$= \frac{18 + 1}{6}$$

$$= \frac{19}{6}$$

$$\begin{array}{r} 12 \\ \times 6 \\ \hline 72 \end{array}$$

3 R 15

$$\begin{array}{r} 19 \overline{)72} \\ \underline{-57} \\ 15 \end{array}$$

$$\begin{array}{r} 19 \\ \times 3 \\ \hline 57 \end{array}$$

⑬ the sum of $\frac{11}{15}$ and $\frac{8}{21}$

$$= \frac{11}{15} + \frac{8}{21}$$

$$= \frac{11 \cdot 7}{15 \cdot 7} + \frac{8 \cdot 5}{21 \cdot 5}$$

$$= \frac{77}{105} + \frac{40}{105}$$

$$= \frac{77 + 40}{105}$$

$$= \frac{117}{105} = \frac{3 \cdot 3 \cdot 13}{3 \cdot 5 \cdot 7}$$

$$= \frac{39}{35} \text{ or } 1\frac{4}{35}$$

⑬

sdwk

$$LCD = 3 \cdot 5 \cdot 7 = 105$$

$$15 = 3 \cdot 5$$

$$21 = 3 \cdot 7$$

$$\begin{array}{r} 21 \\ \times 5 \\ \hline 105 \end{array}$$

$$\begin{array}{r} 117 \\ \wedge \\ 3 \cdot 39 \\ \wedge \\ 5 \cdot 13 \end{array}$$

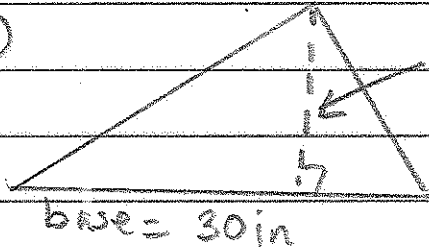
Chapter 3 Review Solutions

(14) the difference of $\frac{7}{8}$ and $\frac{1}{4}$

$$\begin{aligned}
 &= \frac{7}{8} - \frac{1}{4} \\
 &= \frac{7 \cdot 1}{8 \cdot 1} - \frac{1 \cdot 2}{4 \cdot 2} \\
 &= \frac{7}{8} - \frac{2}{8} \leftarrow \text{LCD} \\
 &= \frac{7-2}{8} \\
 &= \frac{5}{8} \quad \textcircled{2}
 \end{aligned}$$

SDWK
$\text{LCD} = 2 \cdot 2 \cdot 2 = 8$
$8 = 2 \cdot 2 \cdot 2$
$4 = 2 \cdot 2$

(15)



height = 10 in Area = $\frac{1}{2} \cdot b \cdot h$

$$A = \frac{1}{2} (30 \text{ in}) (10 \text{ in})$$

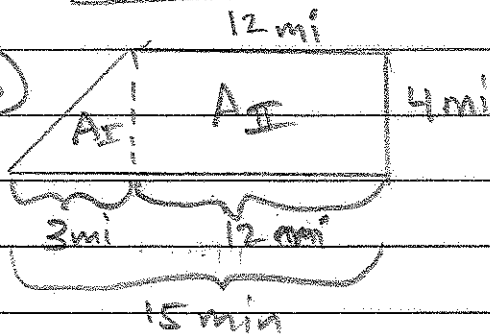
$$A = \frac{2 \cdot 3 \cdot 5 \cdot 2 \cdot 5 \text{ in}^2}{2}$$

$$A = 3 \cdot 5 \cdot 2 \cdot 5 \text{ in}^2$$

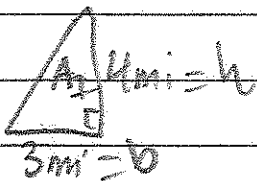
$$A = 150 \text{ in}^2 \quad \textcircled{9}$$

ANS: The area is 150 in².

(16)



$$\begin{aligned}
 \text{Total Area} &= A_I + A_{II} \\
 &= \frac{1}{2} b \cdot h + l \cdot w \\
 &= \frac{1}{2} (3 \text{ mi}) (4 \text{ mi}) + (12 \text{ mi}) (4 \text{ mi}) \\
 &= \frac{2 \cdot 3 \cdot 2 \cdot 2 \text{ mi}^2}{2} + 48 \text{ mi}^2 \\
 &= 6 \text{ mi}^2 + 48 \text{ mi}^2 \\
 &= 54 \text{ mi}^2 \quad \textcircled{10}
 \end{aligned}$$



$$\begin{aligned}
 &12 \text{ mi} = l \\
 &4 \text{ mi} = w \\
 &A_{II} = l \cdot w = (12 \text{ mi}) (4 \text{ mi}) \\
 &A_I = \frac{1}{2} b \cdot h = \frac{1}{2} (3 \text{ mi}) (4 \text{ mi})
 \end{aligned}$$

Chapter Review Solutions

$$\textcircled{17} \left(\frac{2}{3}\right)^2 = \left(\frac{2}{3}\right)\left(\frac{2}{3}\right)$$

$$= \frac{4}{9} \quad \textcircled{S}$$

$$\textcircled{18} \left(-\frac{1}{2}\right)^2 = \left(-\frac{1}{2}\right)\left(-\frac{1}{2}\right)$$

$$= \frac{1}{4} \quad \textcircled{W}$$

$$\textcircled{19} \frac{3}{4} \text{ of } -12x = \frac{3}{4} \cdot (-12x)$$

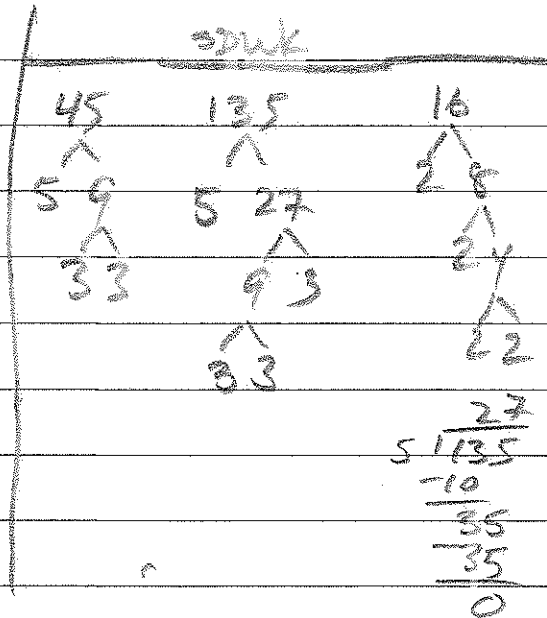
$$= \frac{-3 \cdot \cancel{2} \cdot \cancel{2} \cdot 3 \cdot x}{\cancel{2} \cdot \cancel{2} \cdot 1}$$

$$= -3 \cdot 3 \cdot x$$

$$= -9x \quad \textcircled{aa}$$

$$\textcircled{20} \frac{135}{16} \cdot \frac{2}{45} = \frac{3 \cdot \cancel{3} \cdot \cancel{3} \cdot 5 \cdot \cancel{2}}{2 \cdot 2 \cdot 2 \cdot 2 \cdot \cancel{3} \cdot \cancel{3} \cdot 5}$$

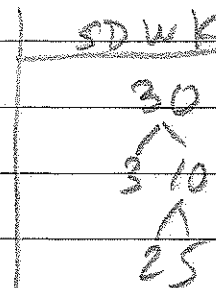
$$= \frac{3}{8} \quad \textcircled{W}$$



$$\textcircled{21} \frac{13}{30} \left(\frac{-3}{13}\right) = \frac{-13 \cdot \cancel{3} \cdot 1}{2 \cdot 3 \cdot 5 \cdot \cancel{13}}$$

$$= \frac{-1}{2 \cdot 5}$$

$$= -\frac{1}{10} \quad \textcircled{g}$$



Chapter 3 Review Solutions

$$\begin{aligned} (22) \quad \frac{ab^2}{c} \cdot \frac{c^3}{a^2b} &= \frac{a \cdot b \cdot b \cdot c \cdot c \cdot c}{c \cdot a \cdot a \cdot b} \\ &= \frac{bc \cdot c}{a} \\ &= \frac{bc^2}{a} \quad (bb) \end{aligned}$$

$$\begin{aligned} (23) \quad \frac{16}{135} \cdot \frac{2}{45} &= \frac{16}{135} \cdot \frac{45}{2} \\ &= \frac{2 \cdot 2 \cdot 2 \cdot \cancel{2} \cdot \cancel{3} \cdot \cancel{3} \cdot \cancel{3}}{3 \cdot \cancel{3} \cdot \cancel{3} \cdot \cancel{3} \cdot 2} \\ &= \frac{2 \cdot 2 \cdot 2}{3} \\ &= \frac{8}{3} \quad (i) \end{aligned}$$

SPWK

16	45	135
^	^	^
2 8	5 9	5 27
^	^	^
2 4	3 3	3 9
^		^
2 2		3 3

$$\begin{aligned} (24) \quad -\frac{1}{2} - \frac{3}{4} &= -\frac{1 \cdot 2}{2 \cdot 2} - \frac{3 \cdot 1}{4 \cdot 1} \\ &= -\frac{2}{4} - \frac{3}{4} \\ &= \frac{-2-3}{4} \\ &= \frac{-5}{4} \quad \text{or} \quad -1\frac{1}{4} \quad (h) \end{aligned}$$

↑ Reduced to lowest terms
 ↑ Mixed number

Chapter 3 Review Solutions

$$\begin{aligned}
 \textcircled{25} \quad 2 \cdot 4 \frac{7}{8} &= \frac{2}{1} \cdot \left(\frac{4 \cdot 8 + 7}{8} \right) \\
 &= \frac{2}{1} \cdot \frac{39}{8} \\
 &= \frac{2 \cdot 3 \cdot 13}{1 \cdot 2 \cdot 2 \cdot 2} \\
 &= \frac{3 \cdot 13}{2 \cdot 2} \\
 &= \frac{39}{4} \text{ or } 9 \frac{3}{4} \quad \textcircled{a}
 \end{aligned}$$

Reduced to lowest terms

mixed number

SDWK

$$\begin{aligned}
 4 \frac{7}{8} &= \frac{4 \cdot 8 + 7}{8} \\
 &= \frac{32 + 7}{8} \\
 &= \frac{39}{8} \\
 &= 9 R 3 \\
 4 \overline{) 39} & \\
 \underline{-36} & \\
 3 &
 \end{aligned}$$

$$\begin{aligned}
 \textcircled{26} \quad \frac{13}{126} - \frac{13}{180} \\
 = \frac{13}{126} \cdot \frac{10}{10} - \frac{13}{180} \cdot \frac{7}{7} \\
 = \frac{130}{1260} - \frac{91}{1260} \\
 = \frac{130 - 91}{1260} \\
 = \frac{39}{1260} \\
 = \frac{3 \cdot 13}{2 \cdot 2 \cdot 3 \cdot 3 \cdot 5 \cdot 7} \\
 = \frac{13}{2 \cdot 2 \cdot 3 \cdot 5 \cdot 7} \\
 = \frac{13}{420} \quad \textcircled{a}
 \end{aligned}$$

SDWK

$$\begin{array}{cc}
 126 / & 180 \\
 \wedge & \wedge \\
 2 \cdot 63 & 10 \cdot 18 \\
 \wedge & \wedge \quad \wedge \\
 7 \cdot 9 & 2 \cdot 5 \quad 2 \cdot 3 \\
 \wedge & \wedge \\
 3 \cdot 3 & 3 \cdot 3
 \end{array}$$

$126 = 2 \cdot 3 \cdot 3 \cdot 7$

$180 = 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5$

$LCD = 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5 \cdot 7$

$LCD = 4 \cdot 9 \cdot 35$

$= 36 \cdot 35$

$= 1260$

$$\begin{array}{r}
 35 \\
 \times 12 \\
 \hline
 70 \\
 350 \\
 \hline
 420
 \end{array}$$

$$\begin{array}{r}
 2 \\
 \cdot 13 \\
 \times 7 \\
 \hline
 91
 \end{array}$$

$4 \cdot 3 \cdot 35 = 12 \cdot 35 = 420$

$$\begin{array}{r}
 3 \\
 36 \\
 \times 35 \\
 \hline
 180 \\
 + 1080 \\
 \hline
 1260
 \end{array}$$

Chapter 3 Review Solutions

$$\begin{aligned}
 (27) \quad & 5\frac{3}{4} + 9\frac{5}{6} \\
 &= \frac{5 \cdot 4 + 3}{4} + \frac{9 \cdot 6 + 5}{6} \\
 &= \frac{23}{4} + \frac{59}{6} \\
 &= \frac{23}{4} \cdot \frac{3}{3} + \frac{59}{6} \cdot \frac{2}{2} \\
 &= \frac{69}{12} + \frac{118}{12} \leftarrow \text{LCD} \\
 &= \frac{69 + 118}{12} \\
 &= \frac{187}{12} \quad \text{or} \quad 15\frac{7}{12} \quad (00)
 \end{aligned}$$

Reduced to lowest terms

↑ mixed number

SDWK

$$\begin{aligned}
 5 \cdot 4 + 3 &= 20 + 3 = 23 \\
 9 \cdot 6 + 5 &= 54 + 5 = 59
 \end{aligned}$$

$$\begin{aligned}
 \text{LCD} &= 2 \cdot 2 \cdot 3 = 12 \\
 4 &= 2 \cdot 2 \\
 6 &= 2 \cdot 3
 \end{aligned}$$

$$\begin{array}{r}
 118 \\
 + 69 \\
 \hline
 187
 \end{array}$$

$$\begin{array}{r}
 15 \text{ R } 7 \\
 12 \overline{) 187} \\
 \underline{-12} \\
 67 \\
 \underline{-60} \\
 7
 \end{array}$$

$$\begin{aligned}
 (28) \quad & \frac{25}{24} \div \frac{15}{36} = \frac{25}{24} \cdot \frac{36}{15} \\
 &= \frac{5 \cdot 5 \cdot 2 \cdot 2 \cdot 3 \cdot 3}{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5} \\
 &= \frac{5}{2}
 \end{aligned}$$

SDWK

$$\begin{array}{ccc}
 25 & 24 & 36 \\
 \begin{array}{c} 5 \\ \wedge \\ 5 \end{array} & \begin{array}{c} 2 \\ \wedge \\ 3 \end{array} & \begin{array}{c} 2 \\ \wedge \\ 2 \end{array} \\
 2 \cdot 2 & 2 \cdot 2 & 2 \cdot 3 \cdot 2 \cdot 3 \\
 2 \cdot 2 & & 15 \\
 & & \wedge \\
 & & 3 \cdot 5
 \end{array}$$

$$\begin{aligned}
 (29) \quad & \frac{3}{4} \div \frac{5}{6} \\
 &= \frac{3}{4} \cdot \frac{6}{5} \\
 &= \frac{3 \cdot 6}{4 \cdot 5} \\
 &= \frac{3 \cdot 2 \cdot 3}{2 \cdot 2 \cdot 5}
 \end{aligned}$$

$$\begin{aligned}
 &= \frac{3 \cdot 3}{2 \cdot 5} \\
 &= \frac{9}{10} \quad (hh)
 \end{aligned}$$

SDWK

$$\begin{array}{cc}
 4 & 6 \\
 \wedge & \wedge \\
 2 \cdot 2 & 2 \cdot 3
 \end{array}$$

Chapter 3 Review Solutions

$$\begin{aligned}
 (30) \quad \frac{x}{y^3} \div \frac{x^3}{y} &= \frac{x}{y^3} \cdot \frac{y}{x^3} \\
 &= \frac{\cancel{x} \cdot \cancel{y} \cdot 1}{\cancel{y} \cdot \cancel{y} \cdot \cancel{y} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x}} \\
 &= \frac{1}{y \cdot y \cdot x \cdot x} \\
 &= \frac{1}{x^2 y^2} \quad (KK)
 \end{aligned}$$

$$\begin{aligned}
 (31) \quad \frac{2}{9} + \frac{5}{x} &= \frac{2 \cdot x}{9 \cdot x} + \frac{5 \cdot 9}{x \cdot 9} \\
 &= \frac{2x}{9x} + \frac{45}{9x} \quad \leftarrow \text{LCD} \\
 &= \frac{2x + 45}{9x} \quad (CC)
 \end{aligned}$$

SDWK

$$\begin{aligned}
 \text{LCD} &= 3 \cdot 3 \cdot x = 9x \\
 x &= x \\
 9 &= 3 \cdot 3
 \end{aligned}$$

$$\begin{aligned}
 (32) \quad 8\frac{2}{3} \div 4\frac{1}{3} \\
 &= \left(\frac{8 \cdot 3 + 2}{3}\right) \div \left(\frac{4 \cdot 3 + 1}{3}\right) \\
 &= \frac{26}{3} \div \frac{13}{3} \\
 &= \frac{26}{3} \cdot \frac{3}{13} \\
 &= \frac{2 \cdot \cancel{13} \cdot \cancel{3}}{1 \cdot \cancel{3} \cdot \cancel{13}} \\
 &= \frac{2}{1} \\
 &= 2 \quad (Z)
 \end{aligned}$$

SDWK

$$\begin{aligned}
 8 \cdot 3 + 2 &= 24 + 2 = 26 \\
 4 \cdot 3 + 1 &= 12 + 1 = 13 \\
 &26 \\
 &\wedge \\
 &2 \cdot 13
 \end{aligned}$$

Chapter 3 Review Solutions

$$\begin{aligned}
 & \textcircled{33} \quad \frac{17}{30} + \frac{11}{42} \\
 & = \frac{17}{30} \cdot \frac{7}{7} + \frac{11}{42} \cdot \frac{5}{5} \\
 & = \frac{119}{210} + \frac{55}{210} \\
 & = \frac{119 + 55}{210} \\
 & = \frac{174}{210} \\
 & = \frac{2 \cdot 3 \cdot 29}{2 \cdot 3 \cdot 5 \cdot 7} \\
 & = \frac{29}{5 \cdot 7} \\
 & = \frac{29}{35} \quad \textcircled{gg}
 \end{aligned}$$

SDWK
 LCD = 2 · 3 · 5 · 7 = 210

30 = 2 · 3 · 5

42 = 2 · 3 · 7

$$\begin{array}{r}
 30 \quad 42 \quad \frac{3}{35} \\
 \wedge \quad \wedge \quad \times 6 \\
 3 \cdot 10 \quad 6 \cdot 7 \quad 210 \\
 \wedge \quad \wedge \quad \uparrow \\
 2 \cdot 5 \quad 2 \cdot 3 \quad 7 \\
 55 \quad 119 \\
 + 119 \\
 \hline
 174
 \end{array}$$

$$\begin{array}{r}
 55 \\
 + 119 \\
 \hline
 174
 \end{array}$$

$$\begin{array}{r}
 29 \\
 3 \overline{) 87} \\
 \underline{- 6} \\
 27 \\
 \underline{- 27} \\
 0
 \end{array}$$

$$\begin{array}{r}
 174 \\
 \wedge \\
 2 \cdot 87 \\
 \wedge \\
 3 \cdot 29
 \end{array}$$

$$\begin{aligned}
 & \textcircled{34} \quad \frac{10a^2}{3b} \cdot \frac{5a}{6b} \\
 & = \frac{10a^2}{3b} \cdot \frac{6b}{5a} \\
 & = \frac{2 \cdot 5 \cdot a \cdot a \cdot 2 \cdot 3 \cdot b}{3 \cdot b \cdot 5 \cdot a \cdot 1} \\
 & = \frac{2 \cdot a \cdot 2}{1} \\
 & = 4a \quad \textcircled{dd}
 \end{aligned}$$

SDWK

$$\begin{array}{r}
 10 \quad 6 \\
 \wedge \quad \wedge \\
 2 \cdot 5 \quad 2 \cdot 3
 \end{array}$$

Chapter 3 Review Solutions

$$\begin{aligned} (35) \quad & \frac{3}{8} + \frac{2}{5} + \frac{1}{4} \\ & = \frac{3 \cdot 5}{8 \cdot 5} + \frac{2 \cdot 8}{5 \cdot 8} + \frac{1 \cdot 10}{4 \cdot 10} \\ & = \frac{15}{40} + \frac{16}{40} + \frac{10}{40} \\ & = \frac{15 + 16 + 10}{40} \end{aligned}$$

SDWK
 $LC'D = 2 \cdot 2 \cdot 2 \cdot 5 = 40$
 $8 = 2 \cdot 2 \cdot 2$
 $5 = 5$
 $4 = 2 \cdot 2$

$$= \frac{41}{40} \quad \text{or} \quad 1\frac{1}{40} \quad (35)$$

↑
Reduced to lowest terms

↑
Mixed number

$$(36) \quad 8\frac{1}{4} - 3\frac{3}{4} = \frac{8 \cdot 4 + 1}{4} - \frac{3 \cdot 4 + 3}{4}$$

$$\begin{aligned} & = \frac{33}{4} - \frac{15}{4} \\ & = \frac{33 - 15}{4} \\ & = \frac{18}{4} = \frac{2 \cdot 3 \cdot 3}{2 \cdot 2} \\ & = \frac{3 \cdot 3}{2} \end{aligned}$$

$$= \frac{9}{2} \quad \text{or} \quad 4\frac{1}{2} \quad (36)$$

↑
Reduced to lowest terms

↑
Mixed number

SDWK
 $8 \cdot 4 + 1 = 32 + 1 = 33$
 $3 \cdot 4 + 3 = 12 + 3 = 15$

$$\begin{array}{r} 18 \\ \wedge \\ 29 \\ \wedge \\ 33 \end{array}$$

$$\begin{array}{r} 4R1 \\ 2 \overline{) 9} \\ \underline{- 8} \\ 1 \end{array}$$

Chapter 3 Review Solutions

(37) $2\frac{1}{3} \cdot 6\frac{3}{4} = \left(\frac{2 \cdot 3 + 1}{3}\right) \cdot \left(\frac{6 \cdot 4 + 3}{4}\right)$

$= \frac{7}{3} \cdot \frac{27}{4}$

$= \frac{7 \cdot \cancel{3} \cdot \cancel{3} \cdot 3}{\cancel{3} \cdot 2 \cdot 2}$

$= \frac{7 \cdot 3 \cdot 3}{2 \cdot 2}$

$= \frac{63}{4}$ or $15\frac{3}{4}$

Reduced to lowest terms

Mixed number

SDWK

$2 \cdot 3 + 1 = 6 + 1 = 7$

$6 \cdot 4 + 3 = 24 + 3 = 27$

$\begin{matrix} 27 \\ \wedge \\ 9 \cdot 3 \\ \wedge \\ 3 \cdot 3 \end{matrix}$

$\begin{matrix} 15 \overline{) 63} \\ \underline{4} \\ 23 \\ \underline{20} \\ 3 \end{matrix}$

(PP)

(38) $\frac{5}{a} + \frac{3}{a} = \frac{5+3}{a}$

$= \frac{8}{a}$

(PP)

(39) $\frac{5}{3} \left(1\frac{1}{5}\right) + \frac{5}{8} \left(3\frac{1}{5}\right) = \frac{5}{3} \cdot \left(\frac{1 \cdot 5 + 1}{5}\right) + \frac{5}{8} \cdot \left(\frac{3 \cdot 5 + 1}{5}\right)$

$= \frac{5}{3} \cdot \frac{6}{5} + \frac{5}{8} \cdot \frac{16}{5}$

$= \frac{\cancel{5} \cdot 2 \cdot \cancel{3}}{\cancel{3} \cdot \cancel{5} \cdot 1} + \frac{\cancel{5} \cdot 2 \cdot 2 \cdot 2 \cdot 2}{\cancel{2} \cdot \cancel{2} \cdot 2 \cdot 5 \cdot 1}$

$= \frac{2}{1} + \frac{2}{1}$

$= 2 + 2$

$= 4$

(V)

SDWK

$1 \cdot 5 + 1 = 5 + 1 = 6$

$3 \cdot 5 + 1 = 15 + 1 = 16$

$\begin{matrix} 6 & 8 & 16 \\ \wedge & \wedge & \wedge \\ 2 \cdot 3 & 2 \cdot 2 & 2 \cdot 8 \\ & \wedge & \wedge \\ & 2 \cdot 2 & 2 \cdot 4 \\ & & \wedge \\ & & 2 \cdot 2 \end{matrix}$

Chapter 3 Review

$$\textcircled{40} \quad 12\frac{7}{10} - 8\frac{3}{5}$$

$$= \frac{12 \cdot 10 + 7}{10} - \frac{8 \cdot 5 + 3}{5}$$

$$= \frac{127}{10} - \frac{43}{5}$$

$$= \frac{127 \cdot 1}{10 \cdot 1} - \frac{43 \cdot 2}{5 \cdot 2}$$

$$= \frac{127}{10} - \frac{86}{10}$$

$$= \frac{127 - 86}{10}$$

$$= \frac{41}{10}$$

or $4\frac{1}{10}$

Reduced to lowest terms

Mixed number

SDWK

$$12 \cdot 10 + 7 = 120 + 7 = 127$$

$$8 \cdot 5 + 3 = 40 + 3 = 43$$

$$\text{LCD} = 2 \cdot 5 = 10$$

$$10 = 2 \cdot 5$$

$$5 = 5$$

SDWK

$$\text{LCD} = 2 \cdot 3 = 6$$

$$4 = 2 \cdot 2$$

$$3 = 3$$

$$\text{LCD} = 2 \cdot 3 = 6$$

$$3 = 3$$

$$6 = 2 \cdot 3$$

$$\begin{array}{cc} 6 & 12 \\ \wedge & \wedge \\ 2 \cdot 3 & 2 \cdot 3 \\ & \wedge \\ & 1 \\ & 2 \cdot 2 \end{array}$$

$$\textcircled{41} \quad \frac{3}{4} + \frac{1}{3} = \left[\frac{3}{4} + \frac{1}{3} \right] \div \left[\frac{2}{3} + \frac{1}{6} \right]$$

$$= \left[\frac{3 \cdot 3}{4 \cdot 3} + \frac{1 \cdot 4}{3 \cdot 4} \right] \div \left[\frac{2 \cdot 2}{3 \cdot 2} + \frac{1 \cdot 1}{6 \cdot 1} \right]$$

$$= \left[\frac{9}{12} + \frac{4}{12} \right] \div \left[\frac{4}{6} + \frac{1}{6} \right]$$

$$= \left[\frac{9+4}{12} \right] \div \left[\frac{4+1}{6} \right]$$

$$= \frac{13}{12} \div \frac{5}{6}$$

$$= \frac{13}{12} \cdot \frac{6}{5}$$

$$= \frac{13 \cdot 2 \cdot 3}{2 \cdot 2 \cdot 3 \cdot 5}$$

$$= \frac{13}{2 \cdot 5}$$

$$= \frac{13}{10}$$

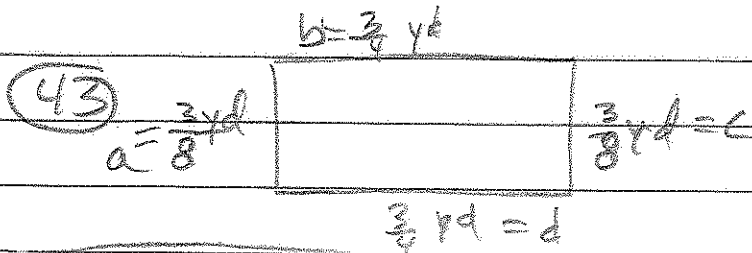
$$= 1\frac{3}{10}$$

U

Chapter 3 Review Solutions

(42) $(\frac{2}{5})^0 = 1$

(ff)



Perimeter = a + b + c + d

Perimeter = $(\frac{3}{8} \text{ yd}) + (\frac{3}{8} \text{ yd}) + (\frac{3}{8} \text{ yd}) + (\frac{3}{8} \text{ yd})$

Perimeter = $\frac{3+3}{8} + \frac{3+3}{8} \text{ yd}$

= $\frac{6}{8} + \frac{6}{8} \text{ yd}$

= $\frac{6}{8} + \frac{6 \cdot 2}{4 \cdot 2} \text{ yd}$

= $\frac{6}{8} + \frac{12}{8} \text{ yd}$

= $\frac{6+12}{8} \text{ yd}$

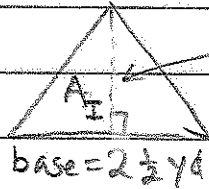
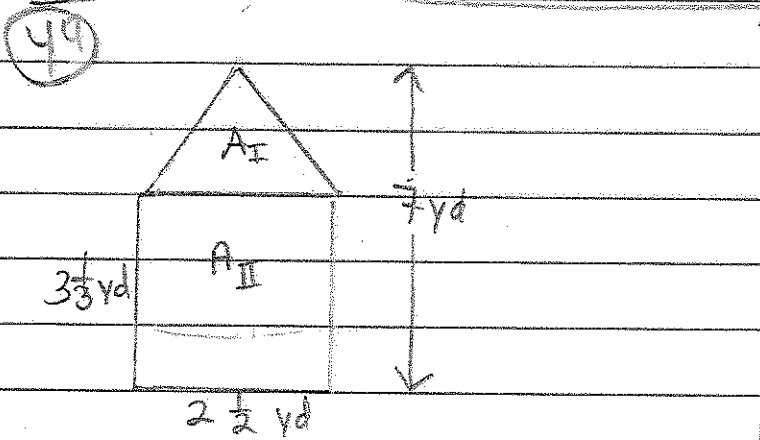
= $\frac{18}{8} \text{ yd} = \frac{2 \cdot 3 \cdot 3}{2 \cdot 2 \cdot 2} \text{ yd}$

= $\frac{9}{4} \text{ yd}$ or $2\frac{1}{4} \text{ yd}$

Reduced to lowest terms

↑ mixed number

(ff)

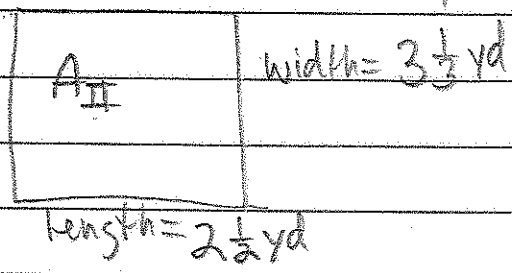


height = $7 - 3\frac{1}{3} \text{ yd}$
 = $7 - \frac{33+1}{3} \text{ yd}$
 = $\frac{7 \cdot 3}{1 \cdot 3} - \frac{34}{3} \text{ yd}$
 = $\frac{21}{3} - \frac{34}{3} \text{ yd}$
 = $\frac{11}{3} \text{ yd}$

$A_I = \frac{1}{2} \cdot b \cdot h$
 $A_I = \frac{1}{2} (2\frac{1}{2} \text{ yd}) (\frac{11}{3} \text{ yd})$
 $A_I = \frac{1}{2} (\frac{5}{2}) (\frac{11}{3}) \text{ yd}^2$
 $A_I = \frac{55}{12} \text{ yd}^2$

$A_{II} = l \cdot w$
 $A_{II} = (2\frac{1}{2} \text{ yd}) (3\frac{1}{3} \text{ yd})$
 $A_{II} = (\frac{5}{2} \text{ yd}) (\frac{10}{3} \text{ yd})$
 $A_{II} = \frac{5 \cdot 2 \cdot 5}{2 \cdot 3} \text{ yd}^2$
 $A_{II} = \frac{25}{3} \text{ yd}^2$

Total Area = $A_I + A_{II}$
 = $\frac{1}{2}bh + lw$
 = $\frac{55}{12} \text{ yd}^2 + \frac{25}{3} \text{ yd}^2$
 = $(\frac{55}{12} + \frac{25 \cdot 4}{3 \cdot 4}) \text{ yd}^2$
 = $(\frac{55}{12} + \frac{100}{12}) \text{ yd}^2$
 = $\frac{155}{12} \text{ yd}^2$



or $12\frac{11}{12} \text{ yd}^2$

(ii)