

10.01.18

# Unit 3 Practice Assessment:

Ratio a to b

$a:b$  or  $\frac{a}{b}$

4.  $6\frac{3}{4}$  to  $8\frac{1}{4}$

$$\frac{6\frac{3}{4}}{8\frac{1}{4}} = \frac{27/4}{33/4} = \frac{27}{33} = \frac{27 \cdot \cancel{4}}{\cancel{33}} = \frac{3 \cdot 3 \cdot \cancel{3}}{\cancel{3} \cdot 11} = \frac{9}{11}$$

1. (a)  $\frac{336 \text{ words}}{15 \text{ mins}} = \frac{\cancel{3} \cdot 112}{\cancel{3} \cdot 5} = \frac{112 \text{ words}}{5 \text{ mins}}$

5. 1.08 mile to 2.04 miles

$$\frac{1.08 \text{ mi}}{2.04 \text{ mi}} = \frac{108}{204} = \frac{54}{102} = \frac{9 \text{ mi}}{17 \text{ mi}}$$

# Book no. 13

$$\frac{13 \text{ pages}}{26 \text{ sec}} = \frac{1 \text{ pages}}{2 \text{ sec}}$$

$\frac{a}{b} = \frac{c}{d}$  if only  $a d = b c$

$$\# \frac{5}{18} \stackrel{?}{=} \frac{4}{16}$$

$$5(16) = 4(18)$$

$$80 = 76$$

$$\# 25. \frac{2 \frac{1}{2}}{3 \frac{3}{2}} = \frac{15}{22}$$

$$\Rightarrow \frac{5/2}{11/3} = \frac{15}{22}$$

$$\Rightarrow \frac{5}{2} \cdot \frac{3}{11} = \frac{15}{22}$$

$$\Rightarrow \frac{15}{22} = \frac{15}{22}$$

$$23. \quad \frac{16}{24} = \frac{2}{3} \quad \text{yes.}$$

$$16(3) = 24 \cdot 2$$

$$48 = 48.$$

# Book. 39.

$$\frac{12}{16} = \frac{3}{x}$$

$$\Rightarrow 12x = 3 \cdot 16$$

$$\Rightarrow x = \frac{3 \cdot 16}{12} = \frac{\cancel{3} \cdot \cancel{2} \cdot \cancel{2} \cdot 2}{\cancel{2} \cdot \cancel{2} \cdot \cancel{3}} = 4$$

$$\# 46. \quad \frac{5}{60} = \frac{z}{8}$$

$$\Rightarrow 60z = 5 \times 8$$

$$\Rightarrow z = \frac{5 \times 8}{60} = \frac{\cancel{5} \times \cancel{8} \cdot 40}{60} = \frac{2}{3}$$

$$\# \quad \frac{16}{12} = \frac{21}{a}$$

$$\Rightarrow 16a = 12 \times 21$$

$$\Rightarrow a = \frac{12 \times 21}{16} = \frac{3 \times 21}{4} = \frac{63}{4}$$

$$\#49. \quad \frac{m}{12} = \frac{5}{8}$$

$$\Rightarrow m = \frac{5 \times 12}{8} = \frac{5 \times \cancel{3} \times \cancel{4}}{2 \times \cancel{4}} = \frac{15}{2}$$

$$\#51. \quad \frac{17}{12} = \frac{4\frac{1}{4}}{x}$$

$$\Rightarrow \frac{17}{12} = \frac{\frac{17}{4}}{x}$$

$$\Rightarrow \frac{17}{12} = \frac{17}{4x}$$

$$\Rightarrow 4x \cdot 17 = 17 \cdot 12$$

$$\Rightarrow x = \frac{\cancel{17} \cdot \cancel{12}^3}{\cancel{4} \cdot \cancel{17}^1}$$

$$\therefore x = 3$$

$$\#52. \quad \frac{26}{30} = \frac{5\frac{1}{5}}{x}$$

$$\Rightarrow \frac{26}{30} = \frac{\frac{26}{5}}{\frac{x}{1}}$$

$$\Rightarrow \frac{26}{30} = \frac{26}{5} \cdot \frac{1}{x}$$

$$\Rightarrow \frac{26}{30} = \frac{26}{5x}$$

$$26 \cdot 5x = 26 \cdot 30$$

$$\Rightarrow x = \frac{\cancel{26} \cdot \cancel{30}^1}{\cancel{26} \cdot 5}$$

$$= \frac{\cancel{5} \cdot 6}{5}$$

$$= 6$$

$$\#55. \quad \frac{3/8}{6.75} = \frac{x}{72}$$

$$\Rightarrow \frac{3/8}{\frac{675}{100}} = \frac{x}{72}$$

$$\Rightarrow \frac{0.375}{6.75} = \frac{x}{72}$$

$$\Rightarrow x = \frac{72 \times 0.375}{6.75}$$

$$\therefore x = \frac{27}{6.75} = 4$$

#62. 9 is to 12 as w to 30

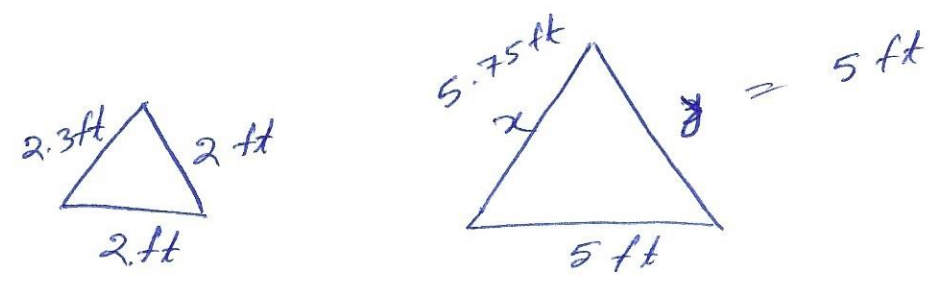
$$\frac{9}{12} = \frac{w}{30}$$

$$\Rightarrow w = \frac{9 \times 30}{12}$$

$$= \frac{\cancel{3} \cdot 3 \cdot 3 \cdot \overset{5}{\cancel{10}}}{\cancel{3} \cdot \cancel{4} \cdot 2}$$

$$= \frac{45}{2}$$

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$$\frac{2.3 \text{ ft}}{x} = \frac{2 \text{ ft}}{y} = \frac{2 \text{ ft}}{5 \text{ ft}}$$

$$y = \frac{2 \times 5}{2} \text{ ft} = 5 \text{ ft}$$

$$\frac{2.3 \text{ ft}}{x} = \frac{2 \text{ ft}}{5 \text{ ft}}$$

$$\Rightarrow 2x = 2.3 \times 5 \text{ ft}$$

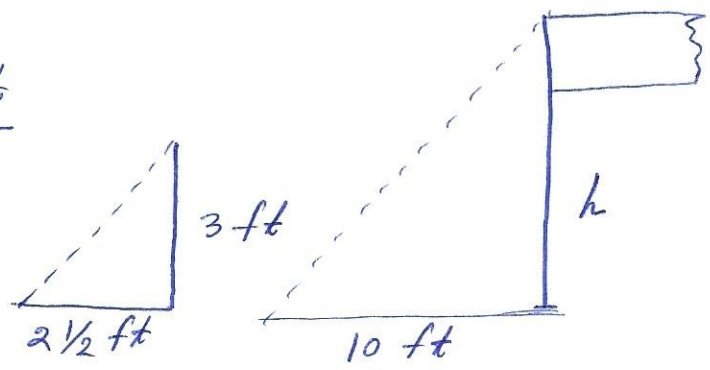
$$\Rightarrow x = \frac{2.3 \times 5}{2} \text{ ft} = 5.75 \text{ ft}$$

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$$\frac{2 \frac{1}{2} \text{ ft}}{10 \text{ ft}} = \frac{3 \text{ ft}}{h}$$

$$\Rightarrow h = \frac{3 \times 10}{2}$$

$$= 15 \text{ ft}$$



# \$312 earned      \$800 invested  
\$x    "              \$1100 invested

$$\frac{312}{800} = \frac{x}{1100}$$

$$\begin{aligned} \Rightarrow x &= \frac{312 \times 1100}{800} \\ &= \frac{\overset{39}{\cancel{312}} \times 11}{\cancel{8}} \\ &= \frac{39 \times 11}{1} \\ &= \$429. \end{aligned}$$