

5.4a Solving Proportions

Method 1: Mental math

Method 2: Use the Mult. Property of Equality

Method 3: Cross Multiplying

Ex. 1 a) $\frac{3}{7} \frac{5}{21} = \frac{x}{21} \cdot \frac{21}{21}$
 ~~$\frac{3}{7} \cdot \frac{5}{21}$~~
 $3 \cdot 5 = x$
 $15 = x$
 $7 \cdot 15 = 5 \cdot 21$
 $105 = 105$

b) $\frac{3}{20} \frac{12}{10} = \frac{a}{15} \cdot \frac{30}{30}$
 $3 \cdot 12 = a \cdot 2$
 $36 = 2a$
 $18 = a$

c) $\frac{2}{6} \frac{y}{6} = \frac{2}{9} \cdot \frac{18}{18}$
 ~~$\frac{2}{6} \cdot \frac{y}{6}$~~
 $2 \cdot y = 2 \cdot 3$
 $6 \cdot 2 = 3 \cdot 4$
 $12 = 12$
 $5 = 3$

~~$\frac{12}{10} \cdot \frac{15}{15}$~~
 $12 \cdot 15 = 18 \cdot 10$
 $180 = 180$

Ex. 2 a) $\frac{40}{x+1} = \frac{15}{6}$
 $15(x+1) = 40 \cdot 6$
 $15x + 15 = 240$
 $15x = 225$
 $x = 15$
 $40 \cdot 6 = 240$
 $15 \cdot 16 = 240$

b) $\frac{5}{2} \frac{n-2}{4} = \frac{20}{4}$
 $5(n-2) = 20$
 $2n - 4 = 20$
 $+4 \quad +4$
 $2n = 24$
 $n = 12$
 $\frac{5}{2} = \frac{(12)-2}{4}$
 $5 \cdot 4 = 20$
 $20 = 20$

HW: p. 190 #7-27 odd omit 11, 13