

# ALGEBRA 1A Q3 QUIZ 3 SOLUTIONS

① PROPORTION

②  $\frac{a}{b} = \frac{c}{d}$  then  $ad = bc$   
CROSS-PRODUCTS ARE EQUAL

③  $\frac{x}{11} = \frac{35}{55}$

$$\frac{55x}{55} = \frac{11 \cdot 35}{55}$$

$x = 7$

④ Percent Change =  $\frac{\text{change}}{\text{original}} \cdot 100$

ORIGINAL: 40  
NEW: 32  $\rightarrow$  change is  $40 - 32 = 8 \downarrow$

$\therefore \frac{8}{40} = \frac{1}{5} = .20 \cdot 100 = \span style="border: 1px solid black; padding: 2px;">20\% \downarrow$

⑤ Book = \$14.95 <sup>DISCOUNT</sup> (.15) = 2.2425 = \$2.24 discount

$$\begin{array}{r} 14.95 \\ - 2.24 \\ \hline 12.71 \end{array}$$

+ TAX

12.71 (.0625) = .7944 = .79 TAX

+ .79

\$13.50 FINAL COST

⑥  $\frac{5x}{5} = \frac{y}{5}$  for x

$x = \frac{y}{5}$

⑦  $ay - b = c$  for y

$$\frac{ay}{a} = \frac{c+b}{a}$$

$y = \frac{c+b}{a}$

⑧  $yx - a = cx$  for x

$$yx - cx - a = 0$$

$$yx - cx = a$$

$$\frac{x(y-c)}{(y-c)} = \frac{a}{(y-c)}$$

$x = \frac{a}{y-c}$

Now, "undo" the distributive property  
divide both sides by  $y-c$

⑨  $a(y+1) = b$  for y

$$ay + a = b$$

$$\frac{ay}{a} = \frac{b-a}{a}$$

$y = \frac{b-a}{a}$

⑩  $\frac{c}{2\pi} = 2\pi r$  for r

$\frac{c}{2\pi} = r$