

Name Answers Date _____

Proportions Review

Solve the proportion. Check your solution.

$$1) \frac{2}{3} = \frac{4}{x}$$

$$\frac{2x}{2} = \frac{12}{2}$$

$$\boxed{x=6}$$

$$2) \frac{13}{6} = \frac{52}{z}$$

$$\boxed{z=24}$$

$$3) \frac{3}{y} = \frac{15}{357}$$

$$\boxed{y=7}$$

$$4) \frac{10}{45} = \frac{v}{27}$$

$$\boxed{v=6}$$

$$5) \frac{5m}{6} = \frac{10}{12}$$

$$\frac{10m}{10} = \frac{10}{10}$$

$$\boxed{m=1}$$

$$6) \frac{3k}{27} = \frac{2}{9}$$

$$\frac{3k}{3} = \frac{18}{3}$$

$$\boxed{k=6}$$

$$7) \frac{6}{t+4} = \frac{42}{77}$$

$$t+4=11$$

$$-4 \quad -4$$

$$\boxed{t=7}$$

$$8) \frac{8}{12} = \frac{r}{r+1}$$

$$3r = 2(r+1)$$

$$3r = 2r + 2$$

$$-2r \quad -2r$$

$$\boxed{r=2}$$

$$9) \frac{n}{n-12} = \frac{9}{5}$$

$$\begin{aligned} 5n &= 9(n-12) \\ 5n &= 9n - 108 \\ -9n \quad -9n \\ \hline -4n &= -108 \\ \frac{-4n}{-4} &= \frac{-108}{-4} \end{aligned}$$

$$n=27$$

$$10) \frac{\overset{3}{\cancel{18}}}{d+13} = \frac{\overset{6}{\cancel{6}}}{d-13}$$

$$d+13 = 3(d-13)$$

$$d+13 = 3d - 39$$

$$\begin{aligned} -d \quad -d \\ 13 &= 2d - 39 \\ +39 \quad +39 \end{aligned}$$

$$\frac{52}{2} = \frac{2d}{2}$$

$$26 = d$$

Describe AND correct the error in solving the proportion.

11)

$$\frac{4}{3} = \frac{16}{x}$$

$$4 \cdot 16 = 4 \cdot x$$

$$64 = 4x$$

$$16 = x$$

they cross-multiplied incorrectly

$$\frac{4x}{4} = \frac{48}{4}$$

$$x = 12$$

12)

$$\frac{18}{14} = \frac{b+2}{b}$$

$$18b = 14b + 2$$

$$4b = 2$$

$$b = 0.5$$

they didn't distribute correctly

$$18b = 14(b+2)$$

$$18b = 14b + 28$$

$$-14b \quad -14b$$

$$\frac{4b}{4} = \frac{28}{4}$$

$$b = 7$$