

8.4, 8.5, and 8.6 Quiz Review

Solve each equation.

$$1.) \frac{3(x-5)}{3} = \frac{24}{3}$$

$$x-5 = 8$$

$$+5 \quad +5$$

$$\boxed{x = 13}$$

$$2.) \frac{0.3(5+y)}{0.3} = \frac{12}{0.3}$$

$$5+y = 40$$

$$-5 \quad -5$$

$$\boxed{y = 35}$$

$$\frac{3}{8}(v-6) = \frac{1}{8}$$

$$v-6 = \frac{1}{3}$$

$$+6 \quad +6$$

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

$$v = \frac{1}{3} + \frac{18}{3}$$

$$\boxed{v = \frac{19}{3} \text{ or } 6\frac{1}{3}}$$

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4.) Talia buys 4 boxes of cereal. She has coupons for \$1.15 off the regular price of each box of cereal. After using the coupons, the total cost of the cereal is \$8.40. Write and solve an equation to find the regular price of each box of cereal.

Let C be the regular price of the cereal.

$$\frac{4(C-1.15)}{4} = \frac{8.40}{4}$$

$$C-1.15 = 2.10$$

$$+1.15 \quad +1.15$$

$$\boxed{C = 3.25}$$

$$\begin{array}{r} 2.10 \\ 4 \overline{) 8.40} \\ \underline{-8.4} \\ 0 \\ \underline{-0} \\ 0 \end{array}$$

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Solve each equation.

$$5.) 3a + 6 = 2a$$

$$\begin{array}{r} -3a \\ -3a \end{array}$$

$$\frac{6}{-1} = \frac{-1a}{-1}$$

$$\boxed{a = -6}$$

$$3a + 6 = 2a$$

$$\begin{array}{r} -2a \\ -2a \end{array}$$

$$1a + 6 = 0$$

$$\begin{array}{r} -6 \\ -6 \end{array}$$

$$\boxed{a = -6}$$

$$6.) 8.7w - 3 = 5.5w + 3.4$$

$$\begin{array}{r} -5.5w \\ -5.5w \end{array}$$

$$3.2w - 3 = 3.4$$

$$\begin{array}{r} +3 \\ +3.0 \end{array}$$

$$\frac{3.2w}{3.2} = \frac{6.4}{3.2}$$

$$\boxed{w = 2}$$

$$\begin{array}{r} 12.0 \\ -5.2 \\ \hline 6.8 \end{array}$$

$$7.) -5.2k + 2.9 = -12k + 30.1$$

$$\begin{array}{r} +12k \\ +12k \end{array}$$

$$6.8k + 2.9 = 30.1$$

$$\begin{array}{r} -2.9 \\ -2.9 \end{array}$$

$$\frac{6.8k}{6.8} = \frac{27.2}{6.8}$$

$$\boxed{k = 4}$$

$$\begin{array}{r} 29 \\ 30.1 \\ -2.9 \\ \hline 27.2 \end{array}$$

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8.) An online DVD rental club has two membership plans. Plan A charges a membership fee of \$20 plus \$5 cost per month. Plan B charges a membership fee of \$30 plus \$3 cost per month. Write and solve an equation to find how many months it would take for the total cost of the two plans to be the same.

Let m be the number of months.

$$20 + 5m = 30 + 3m$$

$$\begin{array}{r} -3m \\ -3m \end{array}$$

$$20 + 2m = 30$$

$$\begin{array}{r} -20 \\ -20 \end{array}$$

$$\frac{2m}{2} = \frac{10}{2}$$

$$\boxed{m = 5 \text{ months}}$$

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9.) Write an inequality for each sentence: Jeremiah can spend at most \$15 at the store.

$$j \leq 15$$

For the given value, state whether each inequality is true or false.

10.) $x + 6 > 7$ when $x = 2$

$$2 + 6 > 7$$

$$8 > 7 \quad \checkmark$$

TRUE

11.) $16 \leq 4a$ when $a = 4$

$$16 \leq 4 \cdot 4$$

$$16 \leq 16 \quad \checkmark$$

TRUE

12.) $6x > 18$ when $x = 3$

$$6 \cdot 3 > 18$$

$$18 > 18 \quad \times$$

FALSE