

1.) Jane's cell phone plan is \$40 a month plus \$0.15 per minute for each minute over 200 minutes of call time. If Jane's cell phone bill is \$55.00, for how many extra calling minutes was she billed? Write and solve an equation to find out the number of extra calling minutes. Define your variables.

$$0.15x + 40 = 55 \quad x = \text{min over 200}$$

$$\begin{array}{r} 0.15x = 15 \\ \underline{.15} \quad \underline{.15} \\ x = 100 \text{ min} \end{array}$$

2.)  $\frac{1}{6}(24x + 36) - 2x + 14 - 8 = 112$

$$4x + 6 - 2x + 14 - 8 = 112$$

$$2x + 12 = 112$$

$$\begin{array}{r} -12 \quad -12 \\ 2x = 100 \\ \underline{12} \quad \underline{12} \\ x = 50 \end{array}$$

3.)  $\frac{3}{11}x + \frac{5}{11}x - 7 + 26 = 14$

$$\frac{8}{11}x - 7 + 26 = 14$$

$$\begin{array}{r} \frac{8}{11}x - 7 + 26 = 14 \\ \underline{-26 \quad -26} \\ \frac{8}{11}x - 7 = -12 \end{array}$$


$$\begin{array}{r} 11 \cdot \frac{8}{11}x - 7 = -12 \\ \underline{+7 \quad +7} \cdot 11 \\ 8x = -55 \end{array}$$

$$\begin{array}{r} 8x = -55 \\ \underline{8} \quad \underline{8} \\ x = -6.875 \end{array}$$

1. The cost of renting a jet ski is \$40 per day plus \$50 per hour of use. How many hours was a jet ski rented if the total cost was \$390?

$$40 + 50h = 390$$

$$\begin{array}{r} 40 + 50h = 390 \\ \underline{-40 \quad -40} \\ 50h = 350 \end{array}$$

$$\begin{array}{r} 50h = 350 \\ \underline{50 \quad 50} \\ h = 7 \end{array} \quad h = \text{hours}$$


2. When an alligator is born it is about 8 inches long. Each year they grow about 12 inches. Determine how old an alligator is that is 116 inches long.



$$\begin{array}{r} 8 + 12x = 116 \quad x = \text{years} \\ -8 \quad \quad -8 \\ \hline 12x = 108 \\ \frac{12}{12} \quad \frac{108}{12} \\ \hline x = 9 \end{array}$$

3. Membership at the Healthy You Gym is a \$40 initial fee and \$5 a visit. If Sanjaya's bill was \$105, how many times had he visited the gym?

$$\begin{array}{r} 40 + 5x = 105 \quad x = \# \text{ of visits} \\ -40 \quad \quad -40 \\ \hline 5x = 65 \\ \frac{5}{5} = \frac{65}{5} = 13 \end{array}$$

4. Membership to a video game club is \$50 a year and \$3 per game rented. At the end of the year Harvey had spent \$296. How many games had he rented?

$$\begin{array}{r} g = \text{games rented} \\ 50 + 3g = 296 \\ -50 \quad \quad -50 \\ \hline 3g = 246 \\ \frac{3}{3} \quad \frac{246}{3} \\ \hline g = 82 \end{array}$$

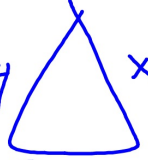
5. Danielle wants to paint a ceramic planter. The total price is the cost of the planter plus an hourly painting rate of \$6. Determine how many hours Danielle painted if she spent \$9 on the planter and her total bill was \$33.

$$\begin{array}{r} 9 + 6x = 33 \quad x = \text{hrs} \\ -9 \quad \quad -9 \\ \hline 6x = 24 \\ \frac{6}{6} \quad \frac{24}{6} \\ \hline x = 4 \end{array}$$

6. Jackson Intermediate School is doing a fund raiser selling magazine subscriptions. The magazine publisher will pay the school a starting bonus of \$500 and then \$4 for each magazine subscription sold. At the end of the fund raiser the school is paid a total of \$1360. How many subscriptions did they sell?

$$\begin{array}{r} 500 + 4x = 1360 \\ -500 \phantom{+ 4x} \\ \hline 4x = 860 \\ \frac{4x}{4} = \frac{860}{4} = 215 \text{ subs} \end{array}$$

7. The lengths of the sides of a triangle are  $x$ ,  $2x+1$ ,  $5x+4$  inches. If the perimeter is 53 inches, what is the value of  $x$ ?



$$\begin{array}{r} 8x + 5 = 53 \\ -5 \phantom{+ 8x} \\ \hline 8x = 48 \\ \frac{8x}{8} = \frac{48}{8} \quad x = 6 \end{array}$$

1.)  $\frac{1}{2}(6x + 24) - 2x + 10 - 4 = 43$

$$\begin{array}{r} 3x + 6 - 2x + 10 - 4 = 43 \\ \phantom{3x} - 2x + 12 = 43 - 12 \\ \phantom{3x} - 2x = 31 \quad | \quad x - \frac{2}{1} = -62 \end{array}$$

2.)  $-\frac{1}{2}(6x - 4) + 5(x + 2) = 0$   $-\frac{1}{2} \cdot \frac{6}{1} = -3 - \frac{1}{2} \cdot \frac{4}{1} =$

$$-3x + 2 + 5x + 10 = 0$$

$$\begin{array}{l} 2x = -12 \\ x = -6 \end{array}$$

3.)  $2[4 - (x - 1) + 3x] = 14$

$x = 1$

$2(4 - x + 1 + 3x) = 14$

$2(5 + 2x) = 14$

$10 + 4x = 14$

$4x = 4$

4.)  $2 + 3[2(x + 4) - 7] = 35$

$2 + 3(2x + 8 - 7) = 35$

$2 + 3(2x + 1) = 35$

$2 + 6x + 3 = 35$

$5 + 6x = 35$

$6x = 30$   
 $x = 5$

5.)  $4[5x + 7 - 8x] + 2 = -18$

$4(-3x + 7) + 2 = -18$

$-12x + 28 + 2 = -18$

$-12x + 30 = -18$

$-12x = -48$

$x = 4$

You can now finish HW #12

Sect. 2-3

Pages 91 & 93

Problems #21-27 and #64

IXLs: J.5 & J.6 - due Friday!