(4) \[ x = \text{original price of dress} \]

\[ x - 0.30x = 55.99 \]
\[ 0.70x = 55.99 \]
\[ x = \frac{55.99}{0.7} = 79.99 \]

(5) \[ x = \text{cost of meals} \]

\[ \text{Meal + Tax + Tip} \]
\[ x + 0.065x + 0.15x = 60 \]
\[ 1.215x = 60 \text{ Meals} \]
\[ x = \frac{60}{1.215} = 49.38 \]
Find Amount Charity, 1st & 2nd Children Receive

Let $x =$ Amount Received by Charity

$2x =$ 1st Child Receives

$3x =$ 2nd Child Receives

$60,000 =$ 3rd Child Receives

**Equation**

$x + 2x + 3x + 60,000 = 300,000$

$6x + 60,000 = 300,000$

$\frac{6x}{6} = \frac{240,000}{6}$

$x = 40,000$ Charity

$2x = 80,000$ 1st Child

$3x = 120,000$ 2nd Child

$60,000$ 3rd Child

**Total Is 300,000**
Find Price of Hot Dog Before Tax

\[ x = \text{price of Hot Dog Before Tax} \]

\[ \text{Hot Dog + Tax} \]

\[ x + 0.065x = 1.80 \]

\[ \frac{1.065x}{1.065} = \frac{1.80}{1.065} \]

\[ x = 1.69 \]
Value of goods \( x \) plus 7% tax.

\[
x + 0.07x = 500,000
\]

\[
1.07x = 500,000
\]

\[
x = \frac{500,000}{1.07} = 467,289.72
\]

500,000 \times 0.07 = 35,000
3. Find out Plan A is cheaper than Plan B.

Let $h$ = number of hours played.

Cost

Plan A < Plan B

Plan A

15 + 10h < 12h

-10h

-5h

\[
\frac{15}{2} < \frac{2h}{2}
\]

7.5 < h

Plan A cheaper

Plan B

12

2
Find Original Price of Stove

\[ x = \text{Original Price of Stove} \]

\[ 600 - 180 - 50 = 370 \quad \text{Sale Price} \]

\[ 600 - 0.30(600) - 50 = 370 \]

\[ x - 0.30x - 50 = 320 \]

\[ 0.70x = 370 + 50 \]

\[ 0.70x = 420 \]

\[ x = \frac{420}{0.70} \]

Original Price - Discount = Sale Price

\[ 500 - 0.10(500) = 450 \]

\[ \text{Question Worksheet} \]
Find pop. in 1980

\[ x = 1980 \text{ population} \]

\[ \frac{1986}{x} \quad \frac{1980}{20,500} \]

1980 population - 18% \times 1980 pop. = 1990 population

\[ x - 0.18x = 20,500 \]

\[ 0.82x = 20,500 \]

\[ \frac{0.82x}{0.82} = \frac{20,500}{0.82} \]

\[ x = 25,000 \]
Geometric Example

Find the measure of 3 \( \angle \)'s of \( \triangle \).

- \( a \) = smallest \( \angle \)
- \( a + 40 = \) 2nd \( \angle \)
- \( 15 + 3a = \) 3rd \( \angle \)

\( \begin{align*}
2nd \angle & = 40 + a = 60^\circ \\
3rd \angle & = 15 + 3a = 60^\circ \\
A & = 180^\circ
\end{align*} \)

Add to \( 180^\circ \):

\( a + 40 + a + 15 + 3a = 180^\circ \)

\( 5a + 55 = 180^\circ \)

\( 5a = 125 \)

\( a = 25 \)
Section 3.1

Find Width & Height

\[ W = \text{width} = w \]
\[ H = \text{height} = w + 3 \]

5 shelves + 2 sides = Total

\[ 5w + 2(w+3) = 27 \]
\[ 5w + 2w + 6 = 27 \]
\[ 7w + 6 = 27 \]
\[ 7w = 21 \]
\[ w = 3 \]

\[ \text{Height} = w + 3 \]
\[ \text{Height} = 6 \]
21. **Animal Art** Joseph Murray built a horse for display at a baseball stadium. It took him 1.4 hours more than twice the number of hours to attach the baseball gloves to the horse. How long did it take to attach the gloves?

29. **Housekeepers** The average hourly wage paid to hotel housekeepers in New York City is $1.46 more than twice the number of hours it took him to build the house. How long did it take him to build the house?
29. **Housekeepers** The average hourly wage paid to hotel housekeepers in New York City is $1.46 more than twice the average wage paid to hotel housekeepers in New Orleans. Determine the average hourly wage paid to housekeepers in New York City if the difference in their average hourly wages is $8.10.

\[
x = \text{New Orleans Wages} \\
1.46 + 2x = \text{New York City Wages} \\
\text{Difference is } 8.10
\]

\[
(1.46 + 2x) - (x) = 8.10 \\
1.46 + x = 8.10 \\
x = 6.64
\]

New Orleans

\[
14.74 = 2(6.64) + 1.46 = \text{NYC}
\]