Teacher Notes

Lesson 28: Solving Percent Problems

Classwork

Example

If an item is discounted 20%, the sale price is what percent of the original price?

$100\% - 20\% = 80\%$

If the original price of the item is \$400, what is the dollar amount of the discount?

$20\% = \frac{20}{100} \div 10 = \frac{2}{10}$

$\frac{2}{10} \cdot 400 = \frac{800}{10} = 80$

\$80 discount

OR.

$\frac{20}{100} \div 20 = \frac{1}{5}$

$\frac{1}{5} \cdot 400 = \frac{400}{5} = 80$

\$80 discount

How much is the sale price?

$80\% = \frac{80}{100} \div 10 = \frac{8}{10}$

$400 \times \frac{8}{10} = \frac{3200}{10} = \$320$

OR

$400 - 80 = \$320$

\$320 is sale price.

Exercise Original − Sale = Amount of Discount

The following items were bought on sale. Complete the missing information in the table. must = 100%

Item	Original Price	Sale Price	Amount of Discount	Percent Saved	Percent Paid
Television	1,000	$800	$ 200	20%	80%
Sneakers	$80	$ 60	$ 20	25%	75%
Video Games	$ 60	$54	$ 6	10%	90%
MP3 Player	$ 86	$51.60	$ 34.40	40%	60%
Book	$ 14	$ 11.20	$2.80	20%	80%
Snack Bar	$ 2	$1.70	$0.30	15%	85%

Tv: $\frac{80}{100} \div 20 \frac{4}{5}$ $\frac{800}{1} \div \frac{4}{5} \Rightarrow \frac{800}{1} \cdot \frac{5}{4} = \frac{4000}{4} = \$1000$ is original Price

$\$1000 - 800 = \$200$ is Amount discounted.

Sneaker $.25(80) = \$20$ is the Amount discounted

$80 - 20 = \$60$ is the Sale price.

$100\% - 25\% = 75\%$ is % Paid

Video Games: $\frac{90}{100} \div 10 = \frac{9}{10}$ $54 \div \frac{9}{10} \Rightarrow \frac{54}{1} \cdot \frac{10}{9} = \frac{540}{9} = \$60$ is sale price

$60 + 20 = \$80$ is the original price.

$60 - 54 = \$6$ is the amount of discount.

MP3 Player: $\frac{60}{100} \div 20 = \frac{3}{5}$ $\frac{51.60}{1} \div \frac{3}{5} \rightarrow \frac{51.60}{1} \cdot \frac{5}{3} = \frac{258}{3} = \$86$ is original price

$\$86.00 - \$51.60 = \$34.40$ is Amount of discount.

Book: $\frac{2.80}{1} \div \frac{20}{100} \Rightarrow \frac{2.80}{1} \cdot \frac{100}{20} = \frac{280}{20} = \$14$ is original Amount

$14.00 - \$2.80 = \$11.20$ is sale Price.

Snack Bar: $0.30 \div \frac{15}{100} \Rightarrow \frac{0.30}{1} \cdot \frac{100}{15} = \frac{30}{15} = \$2$ is the original price.

$\$2.00 - 0.30 = \$1.70$ is the Sale Price.