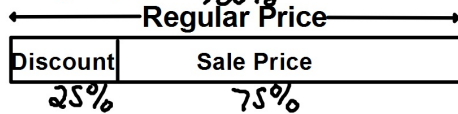## Page 1

Math 7 Notes
Discount, Tax and Markup
(Lesson 2-6 & 2-7)

($ off savings)

A discount is the amount by which the regular price is reduced. It is always calculated with the regular price as "the whole".

When you subtract the discount from the regular price, you get the sale price.

25% off means you pay 75%.

100%

←————— Regular Price —————→

Discount	Sale Price
25%	75%

A store sells items for more than they paid for those items. The amount of increase is called the markup. The percent of markup is a percent of increase. The selling price is the amount the customer pays for the item.

reg price

Page 2

A $40 necklace is on sale for 35% off. Find the sale price.

Method 1 Use the percent given in the word problem.

$$\frac{\text{Dollars off}}{\text{Regular Price of Necklace}} \qquad \frac{35}{100} = \frac{n}{40}$$

$$35(40) \div 100 =$$

$$n = \$14 \text{ off}$$

$$\begin{array}{c} 40 \\ -14 \\ \hline \$26 \end{array}$$ sale price

Method 2 Add or subtract the percent given in the word problem to 100%

If the necklace is discounted 35%, then the sale price is __65__ % of the regular price.

$$\begin{array}{c} 100\% \\ -35\% \\ \hline 65\% \end{array}$$

$$\frac{\text{Sale price}}{\text{reg price}} \qquad \frac{65}{100} = \frac{n}{40}$$

$$65(40) \div 100 =$$

$$n = 26$$

$$\$26$$

Page 3

A store buys an item for $24. It marks it up 65% before selling it to the customer. What is the selling price of the item?

Method 1 Use the percent given

$$\frac{\text{Amount of Markup}}{\text{Cost for the store}} \qquad \frac{65}{100} = \frac{n}{24}$$

$$65(24) \div 100$$

$$n = 15.6$$

$$\$15.60 \text{ markup}$$

$$\begin{array}{c} 24 \\ +15.60 \\ \hline \$39.60 \end{array}$$ selling price

Method 2 Add or Subtract the percent given in the word problem to 100%

If the markup is 65%, then the selling price is __165__ % of the price of the item.

$$\frac{\text{cost + markup}}{\text{cost to store}} \qquad \frac{165}{100} = \frac{n}{24}$$

$$165(24) \div 100 =$$

$$39.6$$

$$\$39.60$$

Page 4

The Easton family bought a car for $22,500. They must pay 6% sales tax. What is the total price of the car including tax?

Method 1 Use the percent given

$$\frac{\text{Amount of Tax}}{\text{Price of Car}} \qquad \frac{6}{100} = \frac{n}{22,500}$$

① find tax $
② Add it on to cost

$$6(22500) \div 100$$

$$n = 1350$$

$$\$1350 \text{ tax}$$

$$\begin{array}{c} 22,500 \\ +1,350 \\ \hline \$23,850 \end{array}$$

Method 2 Add or Subtract the percent given in the word problem to 100%

If they must pay 6% tax, then the total price (including tax) is __106__ % of the price of the car.

$$\frac{\text{cost + tax}}{\text{cost of car}} \qquad \frac{106}{100} = \frac{n}{22500}$$

$$106(22500) \div 100 =$$

$$\$23,850$$

Page 5

A bike regularly sells for $340. It is on sale for 40% off the regular price. The sales tax is 6.35%. Find the cost of the item.

Step 1
Find sale price
If 40% we pay 60%

$\dfrac{\text{sale price}}{\text{reg price}} \quad \dfrac{60}{100} = \dfrac{n}{340}$

$n = \boxed{\$204}$ ← Sale price

Step 2 Find total with tax

Sale price + tax
100% + 6.35%

$\dfrac{\text{cost w/ tax}}{\text{sale price}} \quad \dfrac{106.35}{100} = \dfrac{n}{204}$

$(106.35)(204) \div 100 = 216.954$

$\boxed{\$216.95}$

Page 6

An item regularly sells for $78. It is on sale for 20% off the regular price. The sales tax is 7%. Find the cost of the item.

Step 1 Find savings

$\dfrac{\text{savings}}{\text{orig price}} \quad \dfrac{20}{100} = \dfrac{n}{78}$

$20(78) \div 100 = \$15.60 \text{ off}$

Step 2 Find sale price

$\begin{array}{r} 78 \\ -15.60 \\ \hline \boxed{62.40} \end{array}$ ← Sale Price

Step 3 Find tax

$\dfrac{\text{tax}}{\text{sale price}} \quad \dfrac{7}{100} = \dfrac{n}{62.40}$

$7(62.40) \div 100 = 4.368$
4.37 tax

Step 4 Find cost including tax

$\begin{array}{r} 62.40 \\ + 4.37 \\ \hline \boxed{\$66.77} \end{array}$

Page 7

An item is on sale for 30% off. The sale price of the item is $56. Find the regular price of the item.

Method 1: Use the percent given

$\dfrac{\$ \text{off}}{\text{Reg price}} \quad \dfrac{30}{100} = \dfrac{n}{?}$

✗

You can not Use method 1

Method 2: Add or subtract the percent given in the word problem.

30% off → you pay 70%
Sale price

$\dfrac{\text{sale price}}{\text{Reg price}} \quad \dfrac{70}{100} = \dfrac{56}{n}$

$100(56) \div 70 = n$

$80 = n$

$\boxed{\$80}$ Reg price

Page 8

Sara pays $58 for an item that includes a 6% sales tax. Find the regular price of the item.

Method 1: Use the percent given

$\dfrac{\text{tax}}{\text{Reg price}} \quad \dfrac{6}{100} = \dfrac{?}{?}$

✗

Method 2: Add or subtract the percent given in the word problem.

$\dfrac{\text{price with tax}}{\text{Reg price}} \quad \dfrac{106}{100} = \dfrac{58}{n}$

$100(58) \div 106 =$

$54.7169\ldots$

$\boxed{\$54.72}$