

6th Grade: Using percents to solve problems.

* Warm-up: Jen likes Hershey kisses. She has a bag of blue and pink Hershey kisses. 35% of the Hershey kisses in the bag are blue. Jen knows there are 40 pink Hershey kisses in the bag. How many total Hershey kisses are in the bag? (be careful)

35% blue
65% pink *
40 pink H.k.
total H.k. = T

$$\frac{\text{Pink}}{\text{total}} = \frac{40}{T} = \frac{65}{100}$$

$$\frac{40}{T} = \frac{13}{20}$$

$$T = 61\frac{7}{13}$$

$$T \approx 62$$

$$\frac{40}{13} = 3\frac{1}{13}$$

$$\frac{20}{1} \cdot \frac{40}{13} = \frac{800}{13}$$

$$13 \overline{) 800}$$

$$\underline{- 786}$$

$$14$$

$$\underline{- 13}$$

$$1$$

Jen has about 62 total Hershey kisses in her bag.

What is Discount and Mark-up?

Discount: An amount of money taken off of the original price of an item.

Mark-up: An amount added to the original cost of an item.

Tax or Tip: An amount of money being added to the original cost of an item.

Discount Word Problems:

ex 1: A new DVD player in North Carolina costs \$225 and the sales tax is 5%. What will the customer have to pay for the

DVD player?

DVD
Cost \$225

tax 5%

tax = T

total cost?

DVD 225

tax + 11.25

\$236.25 total price

$$\frac{\text{tax}}{\text{cost}} = \frac{T}{225} = \frac{5}{100}$$

$$\frac{T}{225} = \frac{1}{20}$$

$$T = 11.25$$

$$\left. \begin{array}{l} 100\% \text{ DVD} \\ + 5\% \text{ tax} \\ \hline 105\% \text{ total} \\ P = \text{total price} \end{array} \right\}$$

$$\% (\text{DVD Player}) = (\text{Price})$$

$$105\%(225) = P$$

$$1.05(225) = P$$

$$\boxed{236.25 = P}$$

The DVD player is
\$236.25.

ex 2: Briana wants to buy a new outfit at the mall. Her outfit originally costs \$68, but it is discounted by 40%. What will Briana pay for her outfit?

\$68 outfit

40% discount

60% pay

T = total
cost

$$\% (\text{outfit}) = \frac{\text{Total}}{\text{cost}}$$

$$60\%(68) = T$$

$$0.6(68) = T$$

$$40.80 = T$$

$$\begin{array}{r} 68 \\ \times 0.6 \\ \hline \end{array}$$

Briana will pay
\$40.80 for her outfit.

ex 3: Elena's furniture store marks up their couches 55% so they make a profit. If Elena pays \$650 for a couch, how much will they sell it for?

couch \$650

55% Mark-up

155 % Sell for ^{100% couch} + 55% M-up

C = Selling Price

% (couch) = Selling Price

$$155\%(650) = C$$

$$1.55(650) = C$$

$$1007.50 = C$$

Elena will sell the couch for \$1,007.50.

ex 4: Erica goes to Palermos and orders lunch. Her bill came to \$12.50, but she wants to leave a 20% tip. How much will she end up paying for lunch?

Food \$12.50

tip 20%

120% pay

T = total food

% (food) = total cost

$$120\%(12.50) = T$$

$$1.20(12.5) = T$$

$$15 = T$$

Erica will pay \$15 for lunch.

$$\text{Percent of change} = \frac{\text{change} * \text{Subtract}}{\text{original}}$$

A percent of change can be an increase or a decrease. We look at the amount of the change compared to the original amount.

Percent of change includes: Mark-up, discounts, tax, and tips.

ex 1: Original price is \$1500

Selling price is \$1200

} \$300
change

$$\frac{\text{change}}{\text{original}} = \frac{300}{1500} = \frac{P}{100}$$

$\xrightarrow{\div 15}$
 $\xrightarrow{\div 15}$

$$P = 20\%$$

20% decrease

ex 2: Original count is 500

New Count is 350

} 150

$$\frac{\text{chg}}{\text{orig}} = \frac{150}{500} = \frac{P}{100}$$

$\xrightarrow{\div 5}$
 $\xrightarrow{\div 5}$

30% decrease

$$P = 30\%$$

ex 3: A tennis supply store pays a wholesaler \$90 for a tennis racquet and sells it for \$144. What is the mark-up rate?

\$90 wholesale
 \$144 selling price
 M - mark-up %
 Change \$54

$$\frac{\text{m-up}}{\text{orig.}} = \frac{54}{90} = \frac{M}{100}$$

$$\frac{6}{10} = \frac{M}{100}$$

$$M = 60\%$$

↑
% of change

The store markup the price by 60%.

ex 4: A photo album that usually sells for \$12.50 was put on sale for \$8.50. What is the percent discount?

$$\frac{\text{discount}}{\text{original}} = \frac{4}{12.50} = \frac{P}{100}$$

(8)

$$P = 32\%$$

The discount is 32%.

ex 5: A local dog groomer worked in 72 homes last month. If that number declined by 18 homes, what was the percent decrease?

72 homes last month
 decline 18 homes (change)
 % decrease = D

The decrease in homes
 was 25%.

$$\frac{\text{decline}}{\text{original}} = \frac{18}{72} = \frac{D}{100}$$

$$\frac{2}{8} = \frac{D}{100}$$

(12.5)

$$D = 25\%$$

6th Grade Honors: Percent Review

Warm-up:

1. Madison likes to go out and eat with her friends. The total bill was \$74 and she left a 15% tip. How much will Madison pay?
2. David had \$200 in his savings account last month. This month he has \$250. By what percent did his account increase?

*Come up with two percent review word problems for your partner.

*Switch and complete

*Switch back and check.

6th Grade Honors: Percent Review

1. Drew likes to go out to eat with his friends. The total bill for their food was \$125.50, but he wants to leave a 20% tip. How much will Drew pay?

2. Laura wants to buy a dress at Macys that cost \$85. The sign on the rack says 55% off. What will Laura pay for the dress?

1. Finish Test

2. Read and Take detailed notes from pages 251-252.

3. IXL lessons: 6.M.1, 6.M.3, 6.M.4, 6.M.5, 6.M.6

4. Do page 253 #1-40 in your notebook, by writing the original problems and then answering it. Check all odds in the back.

Algebra:

1. Take the quiz.
2. Read section 7.1 and take GOOD detailed notes (pg. 427).
3. A#34 pg. 430 #1, 3-15 (must be on graph paper!)
and IXL lessons A.U.1 and A.U.2