Name_____ Date _____

Mr. Tallman (H)

Do Now

Use the percent equation to answer the following questions.

1) Jennifer made a fruit juice using red and green grapes. Thirty percent of the grapes are green. If she used a total of 60 grapes, how many green grapes did she use?

Part: X
Whole: 60
Percent: 30

Part = whole(%)
$X = 60(.3)$
$X = 18$

2) A serving of ice cream contains 500 calories. 120 of those calories come from fat. What percent of the 500 calories come from fat?

Part: 120
whole: 500
Percent: X

$\frac{120}{500} = \frac{500(x)}{500}$
$X = 0.24$ 24%

Lesson #35 – Percent of Change, Increase and Decrease

The percent equation can be used to measure the percent of change of different measurements.

Formula: change = original(%)

Example 1) Fill in the table based on each situation.

	Original	New	Change	Percent	Equation
You're 12 years old and will be 18 when you go to college.	12	18	6	X	$6 = 12X$
A shirt was $15 and is now $20	15	20	5	X	$5 = 15X$
The temperature was 17° in the morning and 12° in the evening.	17	12	5	X	$5 = 17(x)$

Example 2) Jordan went to buy a sketch book for art that he saw for $30. When he got to the store, it was marked $50. What is the percent of change?

Original: 30

New: 50

Change: 20

Change = orig. (%)

$\frac{20}{30} = \frac{30X}{30}$

$X = 0.666$ → 66.7% increase

Example 3) A skateboard is worth $400. James bought it for $100. What is the percent of change?

Original: 400

New: 100

Change: 300

Change = orig (%)

$\frac{300}{400} = \frac{400(X)}{400}$

$X = .75$ → 75% decrease

Now, You Try!

4) A car is worth $27,000. Tom bought it for $25,000. What is the percent change?

Original: 27,000

New: 25,000

Change: 2,000

$\frac{2000}{27000} = \frac{27000X}{27000}$

$X = 0.07$ → 7% decrease

5) Kate bought a necklace for $3,000. It is worth $8,000. What is the percent change?

Original: 8000

New: 3000

Change: 5000

$\frac{5000}{8000} = \frac{8000(X)}{8000}$

$X = 0.625$ → 62.5% decrease

Percent Increase – Describes how much a quantity increases compared to the original amount.

Example 6) Amber got a raise at her job. Her hourly wage of $8 was increased by 19%. Find her new hourly wage.

Original: 8

New: X

Percent: 19

new = original (%)

$X = 8(.19)$

$X = 1.52$

$8 + 1.52 = \$9.52$

Percent Decrease – Describes how much a quantity decreases compared to the original amount.

Example 7) The number of students trying out for a volleyball this year decreased last year by 42%. If 55 students tried out last year, how many tried out this year. Round your answer to the nearest whole number.

Original: 55

New: X

Percent: 42

$X = 55(.42)$

$X = 23.1$

$55 - 23$

32 tried out last year

Now, You Try!

8) Last year, the 7th grade had 350 students. This year, the number of students decreased by 36%. How many students are in this year's 7th grade class?

orig: 350

new: X

percent: 36

$X = 350(.36)$

$X = 126$

$350 - 126$

224 this year

9) Enrollment in the cooking club increased by 30% this year. Last year, there were 130 students enrolled in the cooking club. How many students are enrolled this year?

orig: 130

new: X

percent: 30

$X = 130(.3)$

$X = 39$

$130 + 39$

169 this year

Challenge: Alan needs to purchase a bed sheet for his bedroom. Alan measured the bed as 7ft. The actual length of the bed is 6.5 feet. What is Alan's percent of error to the nearest whole percent?

orig: 6.5

new: 7

change: 0.5

$Change = 6.5(\%)$

$\frac{0.5}{6.5} = \frac{6.5X}{6.5}$

$X = 0.08 \rightarrow 8\%$