

Notes Chapter 7

It's TIME for your
NOTES, Your Handy
Dandy NOTES!!

Review

Operations of Decimals

Rule for Adding and Subtracting Decimals:

Ex:1 $\$3.49 + \$0.79 + \$0.99$

Ex:2 $21.76 + 32.8 + 0.999$

Ex:3 $25.78 - 12.4$

Ex:4 $\$10 - \6.75

Rule for Multiplying Decimals:

Ex:5 $0.5 \cdot 0.32$

Ex:6 $3.25 \cdot 4.6$

Ex:7 $3.3 \cdot 7.52$

Ex:8 $0.25 \cdot 0.15$

Name _____ Date _____ Pd _____

Rule for Dividing Decimals:

Ex:9 $\frac{25.5}{1.2}$

Ex:10 $\frac{2.754}{3.4}$

Ex:11 $\frac{44.8}{3.2}$

Ex:12 $\frac{13.144}{2.12}$

Check for Understanding

Ex:13 $6.4 + 7.89$

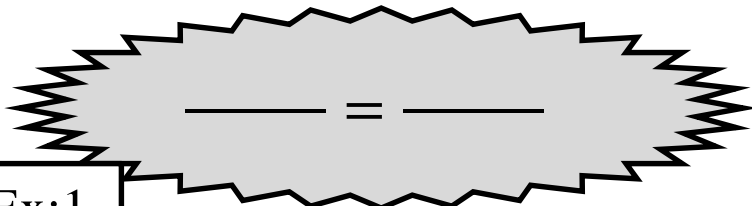
Ex:14 $8.02 - 7.921$

Ex:15 $3.33 \cdot 7$

Ex:16 $\frac{5.16}{4.3}$

Lesson 7-2

Percent Proportions (p350-354)



Ex:1 What number is 50% of 80?

_____ = _____

Ex:2 12 is $33\frac{1}{3}\%$ of what number?

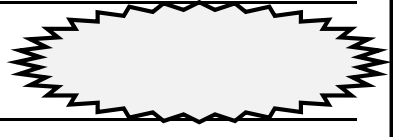
_____ = _____

Ex:3 8 is $N\%$ of 64.

_____ = _____

Steps

- 1) _____
- 2) _____
- 3) _____
- 4) _____



Check for understanding

Ex:4 $X\%$ of 80 is 34.

_____ = _____

Ex:5 47 is 50% of what number?

_____ = _____

Ex:6 16 is what % of 24?

_____ = _____

Ex:7 Y is 75% of 96?

_____ = _____

Name _____ Date _____ Pd _____

Decimal Operations & Percent Proportions Review

Ex:1 $19.435 + 13.2$

Ex:2 $56 - 20.3$

Ex:3 $6.1 \cdot 8.43$

Ex:4 $\frac{.75}{1.3}$

Ex:5 13.5 is 50% of N

Ex:6 What % of 80 is 34?

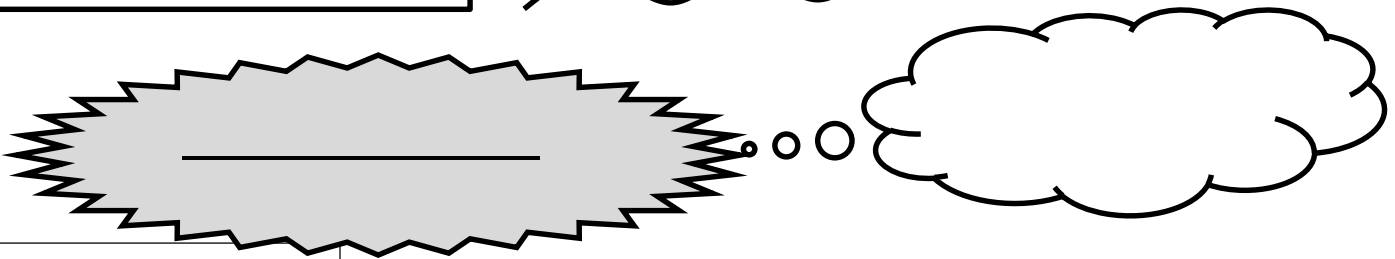
Ex:7 X is $33\frac{1}{3}\%$ of 36

Ex:8 $7\frac{1}{7}\%$ of 70 is what #?

Lesson 7-6

Percent of Change

(p369-374)



State: Increase or Decrease
Find the percent of change 😊

① Fraction → ② Decimal → ③ Percent

Ex:1

Original: 45
New: 30

Ex:2

Original: \$400
New: \$450

Ex:3

Original: \$12.50
New: \$15

Ex:4

Original: 36
New: 66

Ex:5

Original: 2.5
New: 7.5

State: Increase or Decrease
Find the percent of change 😊

Check for understanding

Ex:6

Original: 5.4
New: 10.8

Ex:7

Original: \$80
New: \$110

Ex:8

Original: 85
New: 68

Ex:9

Original: 20.8
New: 13

Lesson 7-7a Percent Story Problems (p375-378)

Use the information to fill in the chart. Write a proportion and solve.

Ex:1

There are 625 students at school. 325 are boys. What % are girls?

		%
		%
		100%

_____ = _____

STEPS

- 1) _____

- 2) _____

- 3) _____

- 4) _____

Check for understanding

Ex:2

There are 90 Problems on a test.
You get 60 problems correct.
Find the percent missed.

		%
		%
		100%

_____ = _____

Ex:3

Sally baked 400 cookies.
8% of them were burnt.
What % was edible?

		%
		%
		100%

_____ = _____

Lesson 7-7b Shopping Story Problems (p375-378)

Use the information to fill in the chart. Write a proportion and solve.

Ex:1 Regular price of a t-shirt is \$10. The sale price of it is \$7.50.

Find the amount of Discount: _____

Find the percent of discount: _____

Sale Price		%
Discount		%
Regular		100%

_____ = _____

Check for understanding

Ex:2 Discount 25% Now pay \$40.50

Ex:3 *(We did this last unit)*
Sales tax 6%. Cost \$20

Find the Regular Price: _____

Find the discount price: _____

Sale Price		%
Discount		%
Regular		100%

Find the Sales Tax: _____

Find the Total: _____

_____ = _____

Name _____ Date _____ Pd _____

Lesson 7-7c

TIPS & Sales Tax

(p375-378)

*10 % Tip (Not so good Service) _____

Ex:1

a) \$28

b) \$41

c) \$80.60

*15 % Tip (OK Service) _____

Ex:2

a) \$28

b) \$41

c) \$80.60

*20 % Tip (Great Service) _____

Ex:3

a) \$28

b) \$41

c) \$80.60

*Sales Tax (This money goes to the government)

Ex:4

Sales Tax is 3%. The cost of dinner is \$17.

Find the amount of sales tax: _____

Find the total cost: _____

Check for understanding

Find the total with 6% sales tax and 20% tip

Ex:5

Your total bill was \$30.00

Ex:6

Your total bill was \$58.50

Lesson 7-8

Simple Interest

(p379-382)

Principal- _____

Simple Interest- _____

Find the interest earned

Ex:1

Sally opens a savings account. She deposits \$1,350 in the account. The account pays 3% simple interest.

- a) 6 years
- b) 8 years 6 months

Ex:2

Herbert borrows \$7,500 for a car. The simple interest rate is 6%. Over 4 years, how much money will he pay in interest?

Check for understanding

Ex:3

You won \$3.8 million from the Iowa Lottery. You decide not to spend the money, instead save it for college or early retirement. With a simple interest rate of 4%, how much money will you have?

- a) College: 5 years 4 months
- b) Early retirement: 37 years (retire at the age of 50☺)

Review 7-7 & 7-8

Ex:1

A house is \$130,000. You put down 20% on the house for a down payment. How much do you still owe?

		%
		%
		100%

_____ = _____

Ex:2

A fancy pair of bedazzled jeans cost \$170. They are on sale for 25% off. There is also a 6% sales tax. Find the final cost. Use any method!

		%
		%
		100%

_____ = _____

Ex:3

You spend \$43.60 at the Granite City. The service was respectable with no problems.

- a) What is a 10% tip?
- b) What is a 15% tip?
- c) What is a 20% tip?
- d) How much is your total bill? You choose the tip %!!!

Adding/Subtracting/Multiplying Decimals

ex) $\$3.49 + \$.79 + \$.99$

Rule: Adding/Subtracting Decimals

↳ Line up the decimal point & place values.

$$\begin{array}{r} 3.49 \\ + .79 \\ + .99 \\ \hline \$5.27 \end{array}$$

ex) $\$10 - \6.75

$$\begin{array}{r} 10.00 \\ - 6.75 \\ \hline \$3.25 \end{array}$$

The decimal point always goes after the one's place value.

Add zeros so the numbers end in the same place value.

ex) $.5 \times .32$

$$\begin{array}{r} .32 \\ \times .5 \\ \hline .160 \end{array}$$

Rule: Multiplying Decimals

- ① Multiply while ignoring the decimal point.
(Don't have to line up the decimal point)
- ② Count the total # of digits after all decimal points.
- ③ Place the decimal point in the answer with the number I came up with in step 2.

Dividing Decimals

ex) $1.326 \div 26$

$$\begin{array}{r} 0.051 \\ 26 \overline{) 1.326} \\ \underline{-130} \\ 26 \\ \underline{-26} \\ 0 \end{array}$$

is the divisor
a whole number

$$\begin{array}{r} 4 \\ 26 \\ \times 7 \\ \hline 182 \end{array} \quad \begin{array}{r} 3 \\ 26 \\ \times 5 \\ \hline 130 \end{array}$$

ex) $2 \div .005$

$$\begin{array}{r} 400 \\ .005 \overline{) 2.000} \\ \underline{-20} \\ 00 \\ \underline{-00} \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

ex) $0.728 \div 0.13$

$$\begin{array}{r}
 5.6 \\
 \hline
 13 \overline{) 72.8} \\
 \underline{-65} \\
 78 \\
 \underline{-78} \\
 0
 \end{array}$$

$$\begin{array}{r}
 13 \\
 \times 5 \\
 \hline
 65
 \end{array}
 \qquad
 \begin{array}{r}
 13 \\
 \times 6 \\
 \hline
 78
 \end{array}$$

$$\begin{array}{r}
 890 \\
 \times 7 \\
 \hline
 91
 \end{array}$$

Is my divisor a whole number?

Rule: When dividing decimals, move BOTH decimals points until the divisor is a whole number.

$$2 \div .04$$

Basic Operations of Decimals

ex) \$1.29 + \$.89 + \$2

When adding & subtracting decimals, just line up the dot & give it all you got.

$$\begin{array}{r} 1.29 \\ + .89 \\ + 2.00 \\ \hline \$4.18 \end{array}$$

The decimal point goes after the ones place value.

ex) \$10 - \$7.84

$$\begin{array}{r} 10.00 \\ - 7.84 \\ \hline \$2.16 \end{array}$$

ex) $.5 \cdot .32$ *DO NOT line up the decimal.

$$\begin{array}{r} .32 \\ \cdot 5 \\ \hline .160 \end{array}$$

*After multiplying, move the decimal point in the answer the total # of digits after ALL the decimals.

Lesson 7-2

Percent Proportions (p 350-354)

ex: What is 50% of 80?

$$\frac{N}{80} = \frac{50}{100}$$

$$\frac{\text{IS (part)}}{\text{OF (whole)}} = \frac{\%}{100}$$

ex: R is $33\frac{1}{3}\%$ of 12

$$\frac{R}{12} = \frac{33\frac{1}{3}}{100}$$

$$\frac{4}{1} \times \frac{12}{1} \times \frac{100}{3}$$
$$\frac{400}{1}$$

$$100R = 12 \times 33\frac{1}{3}$$

$$\frac{100R}{100} = \frac{400}{100}$$

$$R = 4$$

- ① Circle ☺ the
• "IS" number
• "OF" number
* • "%" number *

- ② Set up $\frac{\text{IS}}{\text{OF}} = \frac{\%}{100}$

- ③ Show steps & solve

ex: 8 is N% of 64

$$\frac{8}{64} = \frac{N}{100}$$

$$64N = 8 \cdot 100$$

$$\frac{64N}{64} = \frac{800}{64}$$

$$N = 12.5\%$$

① Circle
* "IS"
* "OF"
* "%"

② Set up the proportion

③ Show steps & solve

Don't forget the "%" sign
if the variable is the
percent

ex: R is $33\frac{1}{3}\%$ of 12

$$\frac{R}{12} = \frac{33\frac{1}{3}}{100}$$

$$100R = 12 \cdot 33\frac{1}{3}$$

$$\frac{100R}{100} = \frac{400}{100}$$
$$R = 4$$

$$\frac{4 \cancel{12}}{1} \times \frac{100}{\cancel{3}1}$$

$$\frac{400}{1} = 400$$

Lesson 7-6

Percent of Change (p. 369-374)

① Fraction → ② Decimal → ③ Percent

ex: original: 45

new: 30

$$\frac{\$15}{45} \div 3 \quad \frac{5}{15} \div 3 = \frac{1}{3} \rightarrow \bar{.3} \rightarrow \boxed{33\frac{1}{3}\% \text{ decrease}}$$



ex: original: \$400

new: \$450

$$\frac{\cancel{50}}{\cancel{400}} \div 8 \rightarrow .125 \rightarrow \boxed{12.5\% \text{ increase}}$$

ex: original: \$12.50

new: \$15.00

$$12.5 \overline{) 25.0} \begin{array}{r} .2 \\ 250 \\ \hline 0 \end{array}$$

$$\begin{array}{r} \$15.00 \\ -12.50 \\ \hline 2.50 \end{array}$$

$$\frac{2.5}{12.5} \rightarrow .2 \rightarrow \boxed{20\% \text{ increase}}$$

Lesson 7-7

Percent Story Problems (p375-378)

ex: There are 625 students at a school. 325 are boys.
What percent are boys?

Words	Numbers	Percent #'s
Girls		
Boys	325	C
Total Students	625	100%

① Fill in the chart with:

1) Words

2) #'s

② Write a proportion

*** must have 2 full rows!**

③ Show proportion steps.

④ Solve!

*** Don't forget your label! 😊**

$$\frac{13 \cancel{625} \cdot 325}{25 \cancel{625}} = \frac{C}{100}$$

$$25C = 13 \times 100$$

$$\frac{25C}{25} = \frac{1,300}{25}$$

$$C = 52\%$$

ex: There are 90 problems on a test. You get 60 problems correct. Find the percent missed.

Correct	60	
incorrect	30	A
Total Problems	90	100%

$$\frac{30}{90} = \frac{A}{100}$$

$$A = 33\frac{1}{3}\%$$

Lesson 7-7

Shopping Story Problems (p 375-378)

ex: Regular Price is \$10.00
Sale Price is \$7.00

→ Find the amount of discount \$3⁰⁰

→ Find the percent of discount 30%

(what you do pay) →	Sale price	\$7	
what you save →	Discount	\$3	C %
total cost →	Regular Price	\$10	100%

$$\frac{3}{10} = \frac{C}{100}$$

$$10C = 3 \times 100$$

$$\frac{10C}{10} = \frac{300}{10}$$

$$C = 30\%$$

ex: Reduced by 25%
Now Pay \$40.50

→ Find the regular price \$54⁰⁰

→ Find the discount \$13.50

Reduced by →

Sales Price	\$40.50	75%
Discount		25%
Regular Price	M	100%

$$\frac{40.50}{M} = \frac{\cancel{75} 3}{\cancel{100} 4}$$

$$3M = 40.50 \times 4$$

$$3M = 4 \times 40.5$$

$$\frac{3M}{3} = \frac{162}{3}$$

$$M = \$54⁰⁰$$

Lesson 7-7

Sales Tax

(p 375-378)

↳ \$ that goes to the government.

Sales tax: a tax based on the cost of an item.
It's a percent of the cost.

ex) IA's is 6%

ex) Sales tax is 3%

The cost is \$17.

→ Find the tax \$.51
$$\begin{array}{r} 17.00 \\ .51 \\ \hline 17.51 \end{array}$$

→ Find the total amount \$17.51

$$\begin{array}{r} 2 \\ 17 \\ \times .03 \text{ tax} \\ \hline 51 \\ + 000 \\ \hline 51 \end{array}$$

* USE the decimal version of the %

ex) Sales tax is 5%

The price is \$60.

→ Find the tax $\frac{\$3}{\$60 + \$3}$

→ Find the total amount $\frac{\$63}{\$63}$

$$60 \times .05$$

$$\begin{array}{r} 60 \\ \times 5 \\ \hline 300 \end{array}$$

Date: _____

Simple Interest (p 379-382)

7-8

Principal - Amount of \$ deposited or Borrowed
 Simple Interest - Amount paid or earned for the
 Use of the \$.

$$I = P r t \rightarrow \text{time expressed in years}$$

\downarrow
 rate, written as
 a decimal

Ex:1 Find Interest Earned

Sally opens a savings account. She deposits \$1,350 into the Account. The account pays 3% ^{simple} interest

a) 5 years

$$I = P r t$$

$$I = 1,350 (.03) 5$$

$$I = \$202.50$$

\downarrow decimal
 .03

b) 8 years 6 months

$$\frac{6}{12} = .5$$

$$I = P r t$$

$$I = 1,350 (.03) 8.5$$

$$I = \$344.25$$

Ex:2 Herbert borrows \$7,500 for a car. The simple interest Rate is 6%. Over 2 years how much \$ will he pay in interest? \downarrow .06

$$I = P r t$$

$$I = 7,500 (.06) 2$$

$$I = \$900$$