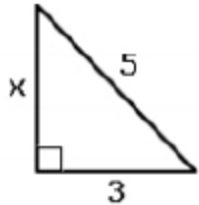


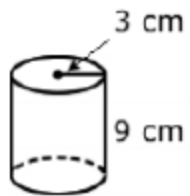
## Week 3 Wednesday Course 3 Warm-up

What is the value of  $x$  in the diagram below?



- A) 3
- B) 3.5
- C) 4
- D) 5

Which is closest to the volume of the cylinder below?



Use  $\pi = 3.14$

- A) 28.26 cubic cm
- B) 169.56 cubic cm
- C) 254.34 cubic cm
- D) 282.6 cubic cm

What is the solution?

$$\begin{cases} x - y = 1 \\ x + y = -1 \end{cases}$$

- A)  $x = 0, y = -1$
- B)  $x = 0, y = 1$
- C)  $x = -1, y = 0$
- D)  $x = 1, y = 0$

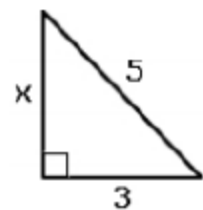


Which of the following is an irrational number?

- A) 5.443
- B)  $-3.21$
- C)  $3.4562 \times 10^3$
- D)  $\sqrt{3}$

## Week 3 Wednesday Course 3 Warm-up

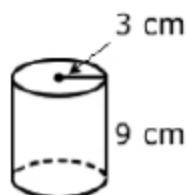
What is the value of  $x$  in the diagram below?



- A) 3
- B) 3.5
- C) 4
- D) 5

4

Which is closest to the volume of the cylinder below?



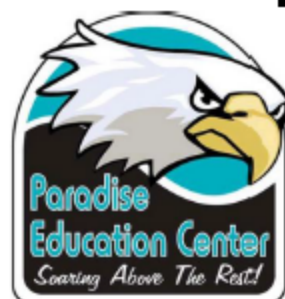
Use  $\pi = 3.14$

- A) 28.26 cubic cm
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What is the solution?

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Which of the following is an irrational number?

- A) 5.443
- B) -3.21
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- ✓ D)  $\sqrt{3}$

## Lesson 10.3 Two Way Tables Day 3



▶ A line of best fit can be used to model the linear association of bivariate quantitative data. A two-way table displays the relative frequencies of categorical data.

# Objective

## TSW

- Read data from a two-way table
- Construct and interpret a two-way table
- **Convert data to relative frequencies in a two-way table**

## Common Core State Standards

*8SP.4– Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.*

**Mathematical Practices** 1. Solve problems/persevere. 2. Reason. 4. Model mathematics

# Lesson 10.3 Two Way Tables Day 1

TSW

- Read data from a two-way table
- Construct and interpret a two-way table
- **Convert data to relative frequencies in a two-way table**

*8SP 4- Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.*

**Vocabulary**

**Relative Frequencies-**

# Lesson 10.3 Two Way Tables Day 3

TSW

- Read data from a two-way table
- Construct and interpret a two-way table
- **Convert data to relative frequencies in a two-way table**

*8SP 4- Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.*

## Vocabulary

### Relative Frequencies-

How often something happens divided by all outcomes

# Lesson 10.3 Two Way Tables Day 3

There are two ways of converting these data into relative frequencies.

		Late		Total
		Yes	No	
Gender	Male	140	575	715
	Female	183	1,086	1,269
	Total	323	1,661	1,984

# Lesson 10.3 Two Way Tables Day 3

		Late	
		Yes	No
Gender	Male	$\frac{140}{323} \approx 0.43$	$\frac{575}{1,661} \approx 0.35$
	Female	$\frac{183}{323} \approx 0.57$	$\frac{1,086}{1,661} \approx 0.65$
Total		1	1

# Lesson 10.3 Two Way Tables Day 3

There are two ways of converting these data into relative frequencies.

		Late		Total
		Yes	No	
Gender	Male	140	575	715
	Female	183	1,086	1,269
	Total	323	1,661	1,984



# Lesson 10.3 Two Way Tables Day 3

There are two ways of converting these data into relative frequencies.

		Late		Total
		Yes	No	
Gender	Male	$\frac{140}{715} \approx 0.20$	$\frac{575}{715} \approx 0.80$	1
	Female	$\frac{183}{1,269} \approx 0.14$	$\frac{1,086}{1,269} \approx 0.86$	1

### Example 9 Convert data to relative frequencies in a two-way table.

From Example 7, the two-way table below shows the results of a poll of 100 adults about their favorite sport.

		Favorite Sport				Total
		Basketball	Baseball	Tennis	Swimming	
Gender	Men	16	27	5	12	60
	Women	2	6	16	16	40
	Total	18	33	21	28	100

- a) Find the relative frequencies to compare and describe the distribution of the genders within each sport. Round your answer to the nearest hundredth when you can.
- b) Find the relative frequencies to compare and describe the distribution of favorite sports within each gender. Round your answer to the nearest hundredth when you can.

**Example 9** Convert data to relative frequencies in a two-way table.

From Example 7, the two-way table below shows the results of a poll of 100 adults about their favorite sport.

		Favorite Sport				Total
		Basketball	Baseball	Tennis	Swimming	
Gender	Men	16	27	5	12	60
	Women	2	6	16	16	40
	Total	18	33	21	28	100

- a) Find the relative frequencies to compare and describe the distribution of the genders within each sport. Round your answer to the nearest hundredth when you can.

**Solution**

		Favorite Sport			
		Basketball	Baseball	Tennis	Swimming
Gender	Men	$\frac{16}{18} \approx 0.89$	$\frac{27}{33} \approx 0.82$	$\frac{5}{21} \approx 0.24$	$\frac{12}{28} \approx 0.43$
	Women	$\frac{2}{18} \approx 0.11$	$\frac{6}{33} \approx 0.18$	$\frac{16}{21} \approx 0.76$	$\frac{16}{28} \approx 0.57$
	Total	1	1	1	1

There are more men than women who prefer basketball and baseball in this sample. There are more women than men who prefer tennis and swimming.

- b) Find the relative frequencies to compare and describe the distribution of favorite sports within each gender. Round your answer to the nearest hundredth when you can.

**Solution**

		Favorite Sport				Total
		Basketball	Baseball	Tennis	Swimming	
Gender	Men	$\frac{16}{60} \approx 0.27$	$\frac{27}{60} = 0.45$	$\frac{5}{60} \approx 0.08$	$\frac{12}{60} = 0.20$	1
	Women	$\frac{2}{40} = 0.05$	$\frac{6}{40} = 0.15$	$\frac{16}{40} = 0.40$	$\frac{16}{40} = 0.40$	1

Most men chose baseball as their favorite sport and tennis was chosen by the fewest men. Most women chose tennis and swimming as their favorite sports and basketball was chosen by the fewest women.

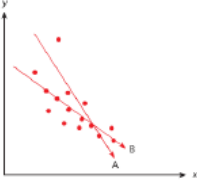
# Lesson 10.3 Two Way Tables Day 1

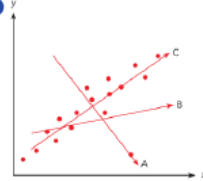
## Practice 10.3 #12-15

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Practice 10.2

State the line that represents a line of best fit for each scatter plot.

1 

2 

Draw a scatter plot and a line of best fit for each table of bivariate data.

3 Use 1 centimeter on the horizontal axis to represent 1 unit. Use 1 centimeter on the vertical axis to represent 20 units.

x	4	1	2	3	5	6	3	6	2	7
y	72	12	32	164	88	112	52	88	40	136

4 Use 1 centimeter on the horizontal axis to represent 1 unit for the x interval from 80 to 87. Use 1 centimeter on the vertical axis to represent 10 units for the y interval from 200 to 300.

x	80	84	81	87	81	86	82
y	220	236	214	256	200	250	292

x	83	83	84	85	85	83	82
y	220	240	238	240	244	232	222

5 Use 1 centimeter on the horizontal axis to represent 0.1 unit. Use 1 centimeter on the vertical axis to represent 5 units for the y interval from 20 to 70.

x	0.1	0.9	0.3	0.4	0.4	1.1	1.0
y	69	59	66	65	64	58	61

x	0.8	0.5	0.7	0.7	0.6	0.2	0.5
y	59	65	63	60	30	68	62

Course 3

## Challenge-

\*MangaHigh provides additional challenge

\*Pick a Problem

\*BuzzMath



 Lesson Check #5,6,8-can read and interpret a two-way table

## Ticket Out the Door-

What is the purpose of using a two-way data table when reading bivariate data?